(FILE 'HOME' ENTERED AT 15:14:09 ON 03 FEB 2002)

FILE 'MEDLINE, BIOSIS, CANCERLIT, LIFESCI, BIOTECHDS' ENTERED AT 15:14:46
ON 03 FEB 2002

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L1          19927 S LEYDIG?
L2            318 S L1(S)TRANSPLANT?
L3              0 S L2(S)ENCAPSUL?
L4              0 S L2(S)MICROENCAPSUL?
L5            295 S L2 AND PY<2000
L6             71 S L2/TI
L7             68 S L6 AND PY<2000
L8             32 DUP REM L7 (36 DUPLICATES REMOVED)
L9         495587 S (TUMOR# OR TUMOUR#)(A)CELL#
L10          1352 S L9(S)(ENCAPSUL? OR MICROENCAPSUL?)
L11           176 S L9(5A)(ENCAPSUL? OR MICROENCAPSUL?)
L12           176 S L11
L13           164 S L12 AND PY<2000
L14            73 DUP REM L13 (91 DUPLICATES REMOVED)
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FILE 'SCISEARCH' ENTERED AT 16:15:43 ON 03 FEB 2002

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L15            23 S GORELIK?/RAU(S)47/RVL(S)5739/RPG
L16             0 S L15 AND VACCIN?
L17             6 S L15 AND IMMUN?
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FILE 'MEDLINE, BIOSIS, CANCERLIT, LIFESCI, BIOTECHDS' ENTERED AT 16:24:53
ON 03 FEB 2002

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L18            89 S L9(S)(MICROCAPSUL?)
L19             0 S L18 AND VACCIN?
L20            13 S L18(S)IMMUNO?
L21             2 S L18(S)(ANTIGEN#)
L22            13 S L20 OR L21
L23            13 S L22 AND PY<2000
L24             7 DUP REM L23 (6 DUPLICATES REMOVED)
L25        417447 S LEYDIG? OR PANCRE? OR ISLET?
L26          2372 S L25(S)(ACRYLAMIDE OR POLYACRYLAMIDE OR ACRYLATE OR (POLY(2W)
L27           182 S L25(5A)(ACRYLAMIDE OR POLYACRYLAMIDE OR ACRYLATE OR (POLY(2W
L28           180 S L27 AND PY<2000
L29           163 S L25(5A)(ACRYLAMIDE OR POLYACRYLAMIDE)
L30           161 S L29 AND PY<2000
L31           102 DUP REM L30 (59 DUPLICATES REMOVED)
L32             3 S L29 AND (MICROCAPSUL? OR TRANSPLANT?)
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FILE 'MEDLINE' ENTERED AT 17:26:33 ON 03 FEB 2002

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L33             0 S LEYDIG?(S)HYDROGEL
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L17 ANSWER 1 OF 6 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 1998:441760 SCISEARCH
THE GENUINE ARTICLE: ZR628
TITLE: Predictive sensitivity of human cancer cells in vivo using
semipermeable polysulfone fibers
AUTHOR: Chu M Y W (Reprint); Lipsky M H; Yee L K; Epstein J; Whartenby K A; Freeman S; Chen T M; Chu E; Forman E N; Calabresi P
CORPORATE SOURCE: BROWN UNIV, DEPT MED & CLIN PHARMACOL, 593 EDDY ST, PROVIDENCE, RI 02903 (Reprint); BROWN UNIV, DEPT PEDIAT, PROVIDENCE, RI 02903; RHODE ISL HOSP, PROVIDENCE, RI 02903; YALE UNIV, SCH MED, YALE CANC CTR, DEPT MED, W HAVEN, CT 06516; YALE UNIV, SCH MED, YALE CANC CTR, DEPT MED & PHARMACOL, W HAVEN, CT 06516; VA CONNECTICUT HEALTHCARE SYST, W HAVEN, CT; TULANE UNIV, MED CTR, DEPT PATHOL & LAB MED SL79, NEW ORLEANS, LA
COUNTRY OF AUTHOR: USA
SOURCE: PHARMACOLOGY, (JUN 1998) Vol. 56, No. 6, pp. 318-326.
Publisher: KARGER, ALLSCHWILERSTRASSE 10, CH-4009 BASEL, SWITZERLAND.
ISSN: 0031-7012.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 43

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB An in vivo experimental model was developed to predict efficiently and accurately chemosensitivity of human tumors. Human cancer cells either from cultured cell lines or from patients' tumors were injected directly into semipermeable polysulfone fibers subsequently implanted into **immunocompetent** rats. Results suggest utility of this novel model system for predicting tumor sensitivity to a wide range of anticancer agents and for potentially guiding the treatment of cancer patients in the clinical setting.

L17 ANSWER 2 OF 6 SCISEARCH COPYRIGHT 2002 ISI (R)

L14 ANSWER 44 OF 73 MEDLINE DUPLICATE 32
ACCESSION NUMBER: 88026742 MEDLINE
DOCUMENT NUMBER: 88026742 PubMed ID: 3664478
TITLE: Microencapsulated tumor assay: new short-term assay for in vivo evaluation of the effects of anticancer drugs on human tumor cell lines.
AUTHOR: Gorelik E; Ovejera A; Shoemaker R; Jarvis A; Alley M; Duff R; Mayo J; Herberman R; Boyd M
CORPORATE SOURCE: Damon Biotech, Inc., Boston, Massachusetts 02194.
CONTRACT NUMBER: NO1-CO-23910 (NCI)
SOURCE: CANCER RESEARCH, **(1987 Nov 1)** 47 (21) 5739-47.
Journal code: CNF; 2984705R. ISSN: 0008-5472.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198712
ENTRY DATE: Entered STN: 19900305
Last Updated on STN: 19970203
Entered Medline: 19871203

AB A new in vivo has been developed for evaluating the antitumor activity of chemotherapeutic drugs. The assay is based on a microencapsulation technology developed by Damon Biotech, Inc., Boston, MA, which makes it possible to **encapsulate** human **tumor cells** in small (about 1 mm in diameter) microcapsules with semipermeable membranes.

Microcapsules containing human tumor cells were injected i.p. into nude or C57BL/6 mice and drugs were administered i.v. The microcapsules were recovered at various intervals following treatment and determinations of drug effects were made based on the differences in the number of tumor cells recovered from the treated and nontreated animals. Using this assay we found that (a) **encapsulated tumor cells** grew better in the in vivo system than in vitro under the conditions tested; (b) drugs crossed the capsular membrane and killed or inhibited the proliferation of tumor cells; and (c) the antitumor effect was consistent with the relative therapeutic efficacy of drugs or level of resistance of tumor cells detected by other in vitro or in vivo tests. The tumor microencapsulation assay offers several properties which make it attractive for use in new drug development: (a) the antitumor activity of drugs can be tested against human tumor cells under conditions which provide for three-dimensional growth and in vivo supply of nutrients; (b) the sensitivity of tumor cells can be assessed following exposure to drugs at concentrations which are achievable in vivo; (c) compounds requiring in vivo metabolic activation can be tested; (d) the effect of each drug injection can be quickly evaluated; (e) inhibition of tumor cell proliferation versus cytoreductive effects of drugs can be discriminated; (f) the test is applicable to virtually all histological types of human **tumor cells**; and (g) the tumor **microencapsulation** assay is a short-term, simple, and relatively inexpensive assay.

L14 ANSWER 40 OF 73 MEDLINE DUPLICATE 30
ACCESSION NUMBER: 89221380 MEDLINE
DOCUMENT NUMBER: 89221380 PubMed ID: 3244821
TITLE: **Microencapsulation** [corrected] of **tumor cells** and assay for selecting anticancer drugs.
COMMENT: Erratum in: Proc Natl Sci Counc Repub China [B] 1989 Apr;13(2):143
AUTHOR: Chen C F; Hwang J M; Jao S W; Leu F J; Chen K Y
CORPORATE SOURCE: Department of Medical Research, Tri-service General Hospital, National Defense Medical Center, Taperi, Taiwan, Republic of China.
SOURCE: PROCEEDINGS OF THE NATIONAL SCIENCE COUNCIL, REPUBLIC OF CHINA. PART B, LIFE SCIENCES, **(1988 Oct)** 12 (4) 252-61.
Journal code: QBH; 8502426. ISSN: 0255-6596.
PUB. COUNTRY: TAIWAN: Taiwan, Province of China
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198905
ENTRY DATE: Entered STN: 19900306
Last Updated on STN: 19970203
Entered Medline: 19890526

AB A **microencapsulation** of living **tumor cells** by an improved membrane and droplet forming technique was established in our laboratory. This semipermeable microencapsulating membrane was impermeable to serum albumins (M.W. 66,000 or 45,000) and human hemoglobin (M.W. 64,000), but permitted passage of low molecular weight substances (alpha-Lactalbumin, or Trypsinogen; M.W. 14,200 or 24,000). The in vivo results showed that **microencapsulated tumor cell** lines (KB, human oral epidermoid cell; P-388 lymphocytic leukemia; GBM 8401/TSGH, glioma) and human colorectal carcinoma cells grew and proliferated exponentially within twenty days. The in vivo growth exhibited better than that in vitro. Histological and morphological findings of these four different kinds of tumor cells are similar to those of original **tumor cells**. Treatment of the **microencapsulated tumor cells** (MTC) with cytotoxic drugs (adriamycin, 5-fluorouracil and cyclophosphamide) in vitro showed no significant difference in percent inhibition (p greater than 0.05) between the encapsulated and non-encapsulated cells. The in vivo data indicated that different anti-cancer drugs had different inhibition effects. The results showed that the MTC model was useful for screening an appropriate cytotoxic drug and could be applied to clinical medicine in the near future.

L14 ANSWER 41 OF 73 MEDLINE DUPLICATE 31

WEST

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L7: Entry 10 of 16 File: USPT May 7, 1996

DOCUMENT-IDENTIFIER: US 5514379 A
** See image for Certificate of Correction **
TITLE: Hydrogel compositions and methods of use

Detailed Description Text (41):
Wherein each R.sub.1 and R.sub.2, independently, is an organic group, at least one of R.sub.1 and R.sub.2 being capable of reacting with said backbone, n is 2 or 3, inclusive, and m is an integer from 10 to 200, inclusive. R.sub.1 and R.sub.2 can be the same or different organic groups. Preferably n is 2, and m is preferably from 50 to 150. These cross-linking agents are easily hydrated, decrease the toxicity of the backbone, and decrease the immunogenicity of the hydrogel compositions. The molecular structures of suitable R.sub.1 and R.sub.2 groups are apparent from the following list of cross-linking agents.

L14 ANSWER 17 OF 73 MEDLINE DUPLICATE 12
ACCESSION NUMBER: 95105288 MEDLINE
DOCUMENT NUMBER: 95105288 PubMed ID: 7806618
TITLE: An experimental study on a chemosensitivity test with alginate microcapsule. Feasibility of in vivo succinic dehydrogenase inhibition test.
AUTHOR: Chin K; Shimizu K; Shoji T
CORPORATE SOURCE: Second Department of Surgery, Nippon Medical School First Hospital, Tokyo, Japan.
SOURCE: NIPPON IKA DAIGAKU ZASSHI. JOURNAL OF THE NIPPON MEDICAL SCHOOL, **(1994 Oct)** 61 (5) 422-34.
Journal code: HRD; 7505726. ISSN: 0048-0444.
PUB. COUNTRY: Japan
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Japanese
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199501
ENTRY DATE: Entered STN: 19950215
Last Updated on STN: 19970203
Entered Medline: 19950131

AB A new chemosensitivity test was evaluated by the MTT colorimetric asay with human **tumor cell** lines **encapsulated** in alginate microcapsules with semipermeable membranes. The proliferation of KATOIII in the microcapsules rapidly increased on the 4th day after the encapsulation. The change expressed on the proliferation curve of the encapsulated KATOIII was approximately 2 days behind the proliferation of the suspension culture. The encapsulated cell number reversed and further proliferation was recognized after the 12th day. After the incubation for 5 hours of encapsulated KATOIII with the medium supplemented with 0.5% MTT, a blue formazan crystal formation was observed radiating around the cells in the capsules. MTT assay depends on the cellular reduction of the absorbance spectra at 540 nm (OD540nm), for complete solubilization of the formazan by DMSO. The formazan formation was observed more significantly in serum medium culture than in serum free medium. In MIT assay when 0.1 mol succinic acid was added, OD540nm of encapsulated KATOIII increased by approximately 50% and its sensitivity also increased greatly. In comparison the results of MTT assay for encapsulated KATOIII and MKN28 with suspended cells under the same conditions (0.1, 1, 10 micrograms/ml of MMC and ADR, 0.5, 5, 50 micrograms/ml of 5FU, 10, 30, 50 micrograms/ml of CDDP), the calculated inhibition index (%) with encapsulated cells were similar to the percentages obtained in the former MTT assay. In this study with microcapsules, the formazan formation in the capsules and the absorbance were macroscopically inhibited when the drug concentration was increased. The encapsulated KATOIII, which was implanted intraperitoneally into rat with a 16-gauge needle, was recovered at a rate of 70.8% on the 8th day and at a rate of 54.5% on the 16th day. The recovered encapsulated KATOIII proliferated remarkably forming cell clots on the 8th day after implantation. Incubation with MTT promoted formazan formation and sufficient cell viability was recognized. The Tegafur concentration in the intraperitoneal microcapsules and the microcapsules containing KATOIII after the intravenous administration of Tegafur was similar to the

intrahepatic level. The 5FU level in the microcapsules containing KATOIII was higher than that in the capsules alone. In an attempt to conduct an in vivo chemosensitivity test, encapsulated KATOIII and MKN28 were intraperitoneally implanted, 4 mg/kg of MMC, ADR and CDDP, and 75mg/kg of 5FU were intravenously administered on the 2nd and 4th days after the implantation. On the 6th day, MTT assay was performed on the recovered microcapsules containing cells and the inhibition index was calculated.(ABSTRACT TRUNCATED AT 400 WORDS)

L14 ANSWER 18 OF 73 MEDLINE DUPLICATE 13

L14 ANSWER 3 OF 73 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 1999284156 MEDLINE
DOCUMENT NUMBER: 99284156 PubMed ID: 10357264
TITLE: Microcapsules prepared from alginate and a photosensitive poly(L-lysine).
AUTHOR: Chang S J; Lee C H; Wang Y J
CORPORATE SOURCE: Institute of Biomedical Engineering, National Yang Ming University Shih Pai, Taipei, Taiwan, ROC.
SOURCE: JOURNAL OF BIOMATERIALS SCIENCE, POLYMER EDITION, **(1999)** 10 (5) 531-42.
Journal code: AY7; 9007393. ISSN: 0920-5063.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199909
ENTRY DATE: Entered STN: 19990921
Last Updated on STN: 19990921
Entered Medline: 19990908

AB A photosensitive polymer, alpha-phenylcinnamylideneacetylated poly(L-lysine), was synthesized and characterized. This photosensitive poly(L-lysine) had 10% of its lysine residues reacted with alpha-phenylcinnamylidene acetyl group and displayed an absorption maximum at 329 nm. The photosensitive poly(L-lysine) was used for the preparation of microcapsules. The capsules formed from this photosensitive poly(L-lysine) and alginate were strengthened significantly by light irradiation. The photo cross-linked capsular membrane was permeable to proteins with mass transfer rate in the descending order: cytochrome C, myoglobin. and serum albumin. GH3 (a rat pituitary **tumor cell** line) cells were **encapsulated** and cultured with this microencapsulation system. The cells proliferated to a density of about 4 x 10(5) cells ml(-1) in the capsules after 6 days cultivation.

L14 ANSWER 4 OF 73 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

L6 ANSWER 23 OF 57 MEDLINE on STN
ACCESSION NUMBER: 1998177926 MEDLINE
DOCUMENT NUMBER: 98177926 PubMed ID: 9552500
TITLE: Polymeric endoluminal gel paving: therapeutic **hydrogel** barriers and sustained drug delivery **depots** for local arterial wall biomanipulation.
AUTHOR: Slepian M J
CORPORATE SOURCE: University Heart Center, University of Arizona, Tucson, USA.
SOURCE: SEMINARS IN INTERVENTIONAL CARDIOLOGY, **(1996 Mar)** 1 (1) 103-16. Ref: 31
Journal code: 9606070. ISSN: 1084-2764.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199804
ENTRY DATE: Entered STN: 19980430
Last Updated on STN: 19980430
Entered Medline: 19980421

AB Polymeric endoluminal paving is a process in which biodegradable polymers may be locally applied percutaneously to blood vessels as endoluminal liners, resurfacing or 'paving', the underlying vascular wall. Depending upon the type of polymer selected, endoluminal polymer layers may function as wall supports, barriers, therapeutic biomaterials or **depots** for local sustained drug delivery. In the original description of the paving process, that is solid paving, structural polymers were utilized. In this article a second form of paving--gel paving is described. In this process, **hydrogel** polymers are locally applied or polymerized on vascular endoluminal surfaces. Endoluminal **hydrogel** layers have been demonstrated to function as physical non-pharmacological barriers limiting cell and protein deposition and effectively reducing underlying arterial wall thrombogenicity. **Hydrogel** paving layers also provide a means for prolonged local arterial wall drug delivery. In this report an update on gel paving is provided. The overall process of polymeric endoluminal paving is initially reviewed. Gel paving and the rationale for this approach is described. Both thermoreversible as well as photopolymerizable PEG-lactide **hydrogel** paving systems are outlined. Recent experimental studies with gel paving examining polymer application, haemocompatability and endoluminal surface thromboprotection, effects on post-injury neointimal thickening and local drug delivery, are then reviewed. Finally, the role of gel paving in future approaches to vascular therapy is discussed.

L60 ANSWER 1 OF 1 MEDLINE on STN
ACCESSION NUMBER: 79250578 MEDLINE
DOCUMENT NUMBER: 79250578 PubMed ID: 754381
TITLE: Flux of topical pilocarpine to the human aqueous.
AUTHOR: Krohn D L
SOURCE: TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY, (1978) 76 502-27.
Journal code: 7506106. ISSN: 0065-9533.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197910
ENTRY DATE: Entered STN: 19900315
Last Updated on STN: 19900315
Entered Medline: 19791026

AB Aqueous fluid was withdrawn from eyes of patients undergoing cataract extraction at various intervals after administration of two drops 2% pilocarpine-HCl in a standard manner. Determination of aqueous pilocarpine concentration was made both by spectroscopy of a ferric hydroxylamine complex and by gas-liquid chromatography. These methods were consistent in indicating that concentration does not rise beyond 5 micrograms/ml at any time following topical instillation. The mean of 71 GLC determinations of aqueous tapped between 2 and 32 minutes after drops was 1.67 micrograms/ml. With assumption of a total chamber volume of 400 microliter, the average total pilocarpine in aqueous in these circumstances is less than 1 microgram. These findings correlate well with investigations of transcorneal flux of pilocarpine for the rabbit in a partial in vitro transport chamber system, with which comparable low flux efficiency was found after simulated drop administration. This serves to validate in some measure in extrapolation of other findings in chamber experiments to the living human eye. The combined in vitro and in vivo experimental results suggest that two distinct mechanisms govern the flux of pilocarpine across the cornea. High doses, comparable to those in standard clinical use, whether administered in drops or in constant flow, are transported inefficiently with kinetics indicating a diffusional mechanism and are associated with intracorneal retention or degradation of a substantial moiety. Low doses, if continuously applied, are much more efficiently transported. **Hydrogel** polymer vehicles appear to mobilize this low-dose mechanism by retaining drug against mechanical dissipation and elution by tear flow, but also by retaining drug against the capability of the cornea to take up more pilocarpine than can be transported to produce an intracorneal **drug "depot."**
Although the exact nature of the "depot" is not clear, it is not elutable as pharmacologically active drug. It is consistently associated with the relatively poor flux efficiency found with high doses, and thus may act in some manner to disable a more efficient mechanism. The flux efficiency found with hydrogel mediation is more than double the best found in constant flow determinations. Vehicular mediated flux is rate limited by the cornea, independent of dose, linear with time despite exponentially secreasing available drug, and not associated with an intracorneal drug "depot." These features are consistent with carrier mediation of some type.

L5 ANSWER 28 OF 43 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 91:423852 SCISEARCH
THE GENUINE ARTICLE: FX986
TITLE: INVITRO AND INVIVO STUDIES OF THE PROPERTIES OF AN ARTIFICIAL MEMBRANE FOR PANCREATIC-ISLET ENCAPSULATION
AUTHOR: KESSLER L (Reprint); PINGET M; APRAHAMIAN M; DEJARDIN P; DAMGE C
CORPORATE SOURCE: INSERM, U61, UNITE BIOL CELLULAIRE & PHYSIOPATHOL DIGEST, 3 AVE MOLIERE, F-67200 STRASBOURG, FRANCE (Reprint); HOP CENT, SERV MALAD ENDOCRINIENNES & METAB, STRASBOURG, FRANCE; INST CHARLES SADRON, STRASBOURG, FRANCE
COUNTRY OF AUTHOR: FRANCE
SOURCE: HORMONE AND METABOLIC RESEARCH, (**1991**) Vol. 23, No. 7, pp. 312-317.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 19

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Encapsulation of **pancreatic** islets with an artificial membrane has been proposed as a means of immunoprotection after **transplantation**. Such a membrane should be biocompatible, nondegradable, and should allow the passage of insulin and glucose while preventing that of antibodies and lymphocytes. Thus, we have studied in vitro and in vivo, the characteristics of an acrylonitrile membrane (AN69, HOSPAL, Sweden) for islet encapsulation. The AN69 membrane composed of a fiber network with a porous structure, allowed a satisfactory passage of glucose (75% of the initial amount within one hour) but not of insulin (only 7%). The morphological state of rat islets cultured on membranes under both conditions for 2 weeks was similar to that of islets cultured on dishes; in addition rat fibroblasts retracted after a 3-day culture. Finally, the membrane was unaltered after a 12 month implantation in the peritoneal **cavity** of rats. When the surface properties of the AN69 membrane were changed by adsorption of a hydrophilic copolymer or by protein coating, the permeability of the membrane was modified. Glucose and insulin diffusion were significantly decreased after protein-coating, whereas glucose diffusion was preserved and that of insulin doubled after adsorption of a copolymer onto the membrane. In addition, after a 12-month implantation in the rat, the membrane surface treated by the copolymer was altered leading to the adhesion of macrophages. In conclusion, the AN69 acrylonitrile membrane may be useful for **pancreatic** islet encapsulation; its insulin permeability should be increased by a surface treatment aimed at increasing its hydrophilic properties. However the stability of this treatment seems to be an important factor in preserving the biocompatibility of the membrane.

L24 ANSWER 9 OF 13 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 95:772608 SCISEARCH
THE GENUINE ARTICLE: TC594
TITLE: APPLICATION OF POLYVINYL-ALCOHOL HYDROGEL MEMBRANE AS ANTIADHESIVE INTERPOSITION AFTER SPINAL SURGERY
AUTHOR: HIRAIZUMI Y (Reprint); TRANSFELDT E E; FUJIMAKI E; NAMBU M
CORPORATE SOURCE: SHOWA UNIV, DEPT ORTHOPAED SURG, SHINAGAWA KU, 1-5-8 HATANODAI, TOKYO 142, JAPAN (Reprint); UNIV MINNESOTA, DEPT ORTHOPAED SURG, MINNEAPOLIS, MN, 55455; JAPAN PETROLEUM CO LTD, CENT TECH RES LAB, YOKOHAMA, KANAGAWA, JAPAN
COUNTRY OF AUTHOR: JAPAN; USA
SOURCE: SPINE, (**01 NOV 1995**) Vol. 20, No. 21, pp. 2272-2277.
ISSN: 0362-2436.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: CLIN
LANGUAGE: ENGLISH
REFERENCE COUNT: No References Keyed

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Study Design. Three inflammatory and adhesive changes inside the spinal canal were analyzed histopathologically in cats.

Objective. To investigate the usefulness of a polyvinyl alcohol hydrogel sheet as an interposition over the dura to prevent inflammatory and adhesive reaction after laminectomy. Summary of Background Beta, A major concern after laminectomy is scar tissue formation that may result in extradural compression or make subsequent surgery to the same area difficult and hazardous.

Methods. Wide laminectomy was performed at L5 in 30 adult cats. The dura was covered with a polyvinyl alcohol hydrogel sheet, free fat graft, or without interposition as a control, Animals were killed at 3 or 12 weeks.

Results. In the control group, adhesion of the exposed dura was apparent. Thick, fibrous **connective tissue** was observed between the dura and the paravertebral muscles, In the fat graft group, the dura was separated from the scar tissue by living grafted fat. However, the dura was adherent to the grafted fat acid fibroblasts migrated into the interstitial space. In the polyvinyl alcohol **hydrogel** group, only a thin synovium-like layer was formed around the polyvinyl alcohol **hydrogel** sheet.

Conclusions. Polyvinyl alcohol hydrogel is made of water and alcohol, and has been shown to be nontoxic to tissues, This is permeable to low molecular weight, but impermeable to large cells such as fibroblasts. Thus, the polyvinyl alcohol hydrogel sheet prevents migration of inflammatory cells and subsequently reduces intraspinal canal; scr tissue formation and adhesive reaction, Other beneficial properties are extreme elasticity and low friction, which eliminate mechanical reaction to the spinal cord. The polyvinyl alcohol hydrogel sheet is believed to be useful in eliminating scar tissue formation and does not interfere with the dynamic gliding movement of the spinal cord and nerve roots.

L5 ANSWER 33 OF 43 CANCERLIT on STN
ACCESSION NUMBER: 86221339 CANCERLIT
DOCUMENT NUMBER: 86221339 PubMed ID: 3011571
TITLE: Long-term plasma glucose normalization in experimental diabetic rats with macroencapsulated implants of benign human insulinomas.
AUTHOR: Altman J J; Houlbert D; Callard P; McMillan P; Solomon B A; Rosen J; Galletti P M
SOURCE: DIABETES, **(1986 Jun)** 35 (6) 625-33.
Journal code: 0372763. ISSN: 0012-1797.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: MEDLINE; Abridged Index Medicus Journals; Priority Journals
OTHER SOURCE: MEDLINE 86221339
ENTRY MONTH: 198607
ENTRY DATE: Entered STN: 19941107
Last Updated on STN: 19941107

AB Permselective tubular membranes (1 mm i.d.) were filled with fragments of nine freshly resected human insulinomas, closed at both ends, and implanted in the peritoneal **cavity** of 30 streptozocin-induced diabetic rats. In 14 animals, nonfasting plasma glucose (PG) and insulin levels were normalized by these immunoprotected **transplants** for up to 1 yr (PG from 520 +/- 12 to 142 +/- 3 mg/100 ml; insulin from 6 +/- 0.5 to 44 +/- 3 microU/ml). These animals showed the same weight gain after 12 mo of observation as 20 controls. The remaining 16 animals showed an incomplete or transient correction of their diabetes and survived 4-6 mo, versus less than 8 wk in untreated animals. Removal of the membrane-encapsulated insulin-secreting tissue from 8 successfully treated rats led to hyperglycemia and death within 10 days. Histology and electron microscopy of insulinoma tissue retrieved after long-term implantation showed functionally active endocrine cells and no evidence of graft rejection. In vitro perifusion gave similar results for encapsulated and nonencapsulated insulinoma tissue. The amount of insulin secreted was quite variable, and responsiveness of the insulinoma to changes in glucose concentration of the surrounding medium was observed in three out of the five tumors studied. These observations establish the effectiveness of immunoseparation by a synthetic membrane in a **pancreatic** xenograft model.

L5 ANSWER 17 OF 43 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 95:407471 SCISEARCH
THE GENUINE ARTICLE: RC055
TITLE: NOVEL DELIVERY OF PANCREATIC-ISLET CELLS TO TREAT INSULIN-DEPENDENT DIABETES-MELLITUS
AUTHOR: MAKI T (Reprint); MULLON C J P; SOLOMON B A; MONACO A P
CORPORATE SOURCE: NEW ENGLAND DEACONESS HOSP, DEPT SURG, DIV ORGAN TRANSPLANTAT, 1 DEACONESS RD, BOSTON, MA, 02215 (Reprint); HARVARD UNIV, SCH MED, BOSTON, MA, 00000; WR GRACE & CO CONN, DIV RES, LEXINGTON, MA, 00000
COUNTRY OF AUTHOR: USA
SOURCE: CLINICAL PHARMACOKINETICS, (**JUN 1995**) Vol. 28, No. 6, pp. 471-482.
ISSN: 0312-5963.
DOCUMENT TYPE: General Review; Journal
FILE SEGMENT: LIFE; CLIN
LANGUAGE: ENGLISH
REFERENCE COUNT: 26

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Immune protective devices containing pancreatic islets are designed to treat insulin-dependent diabetes mellitus by providing glycaemic control without immunosuppression. The immune protection is achieved by separating allogeneic or xenogeneic islets from the host by semipermeable membranes that allow only small molecules such as glucose, insulin and nutrients to pass through. Lymphocytes and immunoglobulins are excluded by the membrane and unable to cause rejection of the islets.

Three types of immune protective devices, i.e. microcapsules, diffusion chambers and perfusion devices (vascularised artificial **pancreas**), have been studied. Microcapsules injected into the abdominal **cavity** in a large quantity achieved glycaemic control, but required a small amount of immunosuppression to prevent fibrosis around the capsules. A clinical attempt to use microcapsulated human islets in a diabetic patient who has maintained functional kidney allografts has been reported. Intra-abdominal placement of diffusion chambers containing allogeneic islets achieved excellent glycaemic control without immunosuppression in diabetic dogs. However, their use was limited by the eventual breakage of tubular chambers. We have extensively used the vascularised artificial **pancreas** for treatment of experimental diabetes mellitus. Excellent biocompatibility of the device was evidenced by the extraordinary longevity of the patency of the device in healthy dogs. Long term control of severe diabetes mellitus Was achieved in totally **pancreatectomised** dogs without immunosuppression by devices seeded with allogeneic (canine) and xenogeneic (porcine) islets. The vascularised artificial **pancreas** could be an excellent alternative to Diabetes Control and Complication Trial (DCCT)-type intensive insulin therapy or **pancreatic transplantation** by providing tight glycaemic control with minimal exogenous insulin therapy without immunosuppression.

L5 ANSWER 8 OF 43 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN DUPLICATE 2
ACCESSION NUMBER: 97:285379 SCISEARCH
THE GENUINE ARTICLE: WR175
TITLE: Efficacy of a prevascularized expanded polytetrafluoroethylene solid support system as a transplantation site for pancreatic islets
AUTHOR: DeVos P (Reprint); Hillebrands J L; DeHaan B J; Strubbe J H; VanSchilfgaarde R
CORPORATE SOURCE: UNIV GRONINGEN, DEPT SURG, SURG RES LAB, BLOEMSINGEL 1, NL-9713 BZ GRONINGEN, NETHERLANDS (Reprint); UNIV GRONINGEN, DEPT ANIM PHYSIOL, NL-9750 AA HAREN, NETHERLANDS
COUNTRY OF AUTHOR: NETHERLANDS
SOURCE: TRANSPLANTATION, (**27 MAR 1997**) Vol. 63, No. 6, pp. 824-830.
Publisher: WILLIAMS & WILKINS, 351 WEST CAMDEN ST, BALTIMORE, MD 21201-2436.
ISSN: 0041-1337.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 68

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB An intraperitoneally located and prevascularized expanded polytetrafluoroethylene solid support is potentially a suitable **transplantation** site for encapsulated **pancreatic** islets, because it allows for both the implantation of a large volume islet graft in the immediate vicinity of blood vessels, and its complete removal. The present study investigates the efficacy of such solid supports for the implantation of nonencapsulated islet isografts in streptozotocin diabetic rat recipients, These solid supports were always coated with acidic fibroblast growth factor, because we found that this growth factor enhances the neovascularization, The success rates of 5-mu l (group A) and 10-mu l (group B) islet isografts in solid supports were compared with the success rates of 5-mu l (group C) and 10-mu l (group D) islet isografts implanted in the unmodified peritoneal **cavity**. Four of seven rats in group A and all seven rats in group B became normoglycemic for at least 6 months. Only two of eight rats in group C and four of eleven rats in group D showed normoglycemia. The normoglycemia lasted for at least 6 months in zero of two animals in group C and in three of four animals in group D. Because of the low success rates in groups C and D, intravenous and oral glucose testing were restricted to the successful recipients in groups A and B, Glucose tolerance was found to be proportional to the grafted islet volume but, expectedly, in both groups the glucose tolerance and the insulin responses were somewhat lower than in controls, Thus, the prevascularized expanded polytetrafluoroethylene solid support, rather than the unmodified peritoneal **cavity**, is an efficacious **transplantation** site, potentially suitable for encapsulated islets.

L5 ANSWER 7 OF 43 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 1998:642272 SCISEARCH
THE GENUINE ARTICLE: 111MK
TITLE: An experimental study on the bioartificial pancreas using polysulfone hollow fibers
AUTHOR: Morita S (Reprint)
CORPORATE SOURCE: KYOTO PREFECTURAL UNIV MED, DEPT SURG 2, KYOTO 602, JAPAN (Reprint)
COUNTRY OF AUTHOR: JAPAN
SOURCE: JAPANESE JOURNAL OF TRANSPLANTATION, (**21 AUG 1998*****) **Vol. 33, No. 3, pp. 169-180.**
Publisher: JAPANESE SOC TRANSPLANTATION, C/O DR KIKUO NOMOTO, NIHON GAKKAI JIMU CENTER, 5-16-9 HONKOMAGOME, BUNKYO-KU, TOKYO 131, JAPAN.
ISSN: 0578-7947.
DOCUMENT TYPE: **Article; Journal**
LANGUAGE: **Japanese**
REFERENCE COUNT: **22**

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB **Bioartificial** ***pancreas** using several sorts of semipermeable membranes have been developed as tools for immunoisolation to avoid allo-and xenograft rejection. In this study, functional and morphological changes of the diffusion chamber type bioartificial **pancreas** made of polysulfone hollow fibers were investigated in vivo. The device was made of a bundle of polysulfone hollow fibers (number of fibers : 180, inner diameter : 300 mu m, wall thickness: 80 mu m, pore size : 0.1 mu m, length : 40 mm) with seeding ports on both ends. Isolated syngeneic (Lewis rat) or xenogeneic (Syrian hamster) islets mixed with RPMI medium containing 2% agarose were seeded into the device, which was implanted into the peritoneal **cavity** of streptozotocin-induced diabetic Lewis rats without immunosuppression. Fasting plasma glucose levels were nearly normalized within 48 hours and were less than 200 mg/dl for 11.7 +/- 1.2 days in isografts and for 17.8 +/- 2.8 days in xenografts after **transplantation**. Mean K-values in isografts were 1.0%/min at 2 weeks and 0.8%/min at 4 weeks posttransplant, and those in xenografts were 1.3%/min and 0.7%/min at the same time points; thus function ol the bioartificial **pancreas** made of polysulfone gradually deteriorated within 1 month alter **transplantation**, as fibrous tissues grew up around the fibers leading the inside of fibers to be hypoxic and those would prevent diffusion of glucose, insulin and so forth. The effect of the device on the control of blood glucose was insufficient and transient, so that several modifications are required in order to apply it to clinical diabetics in the future.

L5 ANSWER 6 OF 43 LIFESCI COPYRIGHT 2003 CSA on STN
ACCESSION NUMBER: 2000:11617 LIFESCI
TITLE: Tissue engineering: the design and fabrication of living replacement devices for surgical reconstruction and transplantation
AUTHOR: Vacanti, J.P.; Langer, R.
CORPORATE SOURCE: Department of Surgery, Massachusetts General Hospital, Boston, MA 02114-2696, USA
SOURCE: Lancet, (**19990700**) pp. 32-34.
ISSN: 0099-5355.
DOCUMENT TYPE: Journal
TREATMENT CODE: General Review
FILE SEGMENT: W3
LANGUAGE: English
SUMMARY LANGUAGE: English

AB All procedures that restore missing tissue in patients require some type of replacement structure for the area of defect or injury. This form of therapy accounts for a large part of health-care resources (table). These devices have traditionally been totally artificial substitutes (joints), non-living processed tissue (heart valves), or tissue taken from another site from the patients themselves or from other patients (**transplantation**). Now a new alternative, tissue engineering, is becoming available to clinicians: the replacement of living tissue with living tissue that is designed and constructed to meet the needs of each individual patient. Tissue engineering is an interdisciplinary field which applies the principles of engineering and the life sciences toward the development of biological substitutes that restore, maintain, or improve tissue function. Examples of tissue engineering can be found as early as 1933 when Bisceglie encased mouse tumour cells in a polymer membrane and inserted them into the abdominal **cavity** of a pig. The cells lived long enough to show that they were not killed by the immune system. In 1975, Chick and colleagues reported their results of encapsulating **pancreatic**-islet cells in semipermeable membranes to aid glucose control in patients with diabetes mellitus. Replacement of the skin with cells in collagen gels, or collagen-glycosaminoglycan composites to guide regeneration, was attempted by the early 1980s and these techniques are now in clinical use.

L8 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:757286 CAPLUS
DOCUMENT NUMBER: 130:172922
TITLE: Experimental and morphological study of biomedical efficacy of two variants of composites based on polyacrylamide gel and hydroxyapatite used for repair of bone defects
AUTHOR(S): Grigoryan, A. S.; Volozhin, A. I.; Al Ahmar, Nidal; Titov, M. N.
CORPORATE SOURCE: Tsentr. Nauchno-Issled. Inst. Stomatol., Moscow, Russia
SOURCE: Stomatologiya (Moscow) (1998), 77(4), 9-13
CODEN: STOAAT; ISSN: 0039-1735
PUBLISHER: Izdatel'stvo Media Sfera
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Tissue status at the site of exptl. bone defects filled by two compns. based on polyacrylamide gel and hydroxyapatite with (exptl. group) and without (controls) lysozyme was studied in rats by the histomorphol. method. "Neg." symptoms, such as inflammation, formation of osteocyte-free bone at the interface of the defect, and redn. of red bone narrow were more manifest in the controls than in animals treated with lysozyme. In the test group substitution of composite material for **connective tissue** structures and bone reparation were much more active and rapid than in the controls. Inflammation and dystrophic changes at the interface of defects were less pronounced and gradually resolved.

L18 ANSWER 14 OF 16 MEDLINE on STN DUPLICATE 10
ACCESSION NUMBER: 93315226 MEDLINE
DOCUMENT NUMBER: 93315226 PubMed ID: 8325698
TITLE: Obstacles in the application of microencapsulation in islet transplantation.
AUTHOR: De Vos P; Wolters G H; Fritschy W M; Van Schilfgaarde R
CORPORATE SOURCE: Department of Surgery, University of Groningen, The Netherlands.
SOURCE: INTERNATIONAL JOURNAL OF ARTIFICIAL ORGANS, **(1993 Apr)** 16 (4) 205-12.
Journal code: 7802649. ISSN: 0391-3988.
PUB. COUNTRY: Italy
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199308
ENTRY DATE: Entered STN: 19930820
Last Updated on STN: 19970203
Entered Medline: 19930812

AB Several factors stand in the way of successful clinical transplantation of alginate-polylysine-alginate microencapsulated pancreatic islets. These obstacles can be classified into three categories. The first regards the technical aspects of the production process. Limiting factors are the insufficient ability to produce small capsules with an adequate production rate, and insufficient insight into the factors determining the optimal chemical and mechanical properties of the capsules. The second category regards the functional aspects of the microencapsulated islets, such as the limitations of the transplantation site and the absence of a physiologic insulin response of the encapsulated islets to elevated blood glucose levels. The third category regards the fact that survival times of encapsulated islet grafts are still limited to several weeks or months, which is mainly explained by a pericapsular **fibrotic overgrowth** reaction as a consequence of the bioincompatibility of the capsule membrane. This study describes these obstacles, and thereby summarizes the requirements needed for successful clinical application of encapsulated islet transplantation.

L18 ANSWER 5 OF 16 MEDLINE on STN DUPLICATE 4
ACCESSION NUMBER: 1999135475 MEDLINE
DOCUMENT NUMBER: 99135475 PubMed ID: 9952004
TITLE: Promotion of neovascularization around hollow fiber bioartificial organs using biologically active substances.
AUTHOR: Hunter S K; Kao J M; Wang Y; Benda J A; Rodgers V G
CORPORATE SOURCE: Department of Obstetrics and Gynecology, University of Iowa, Iowa City 52242-1080, USA.
SOURCE: ASAIO JOURNAL, **(1999 Jan-Feb)** 45 (1) 37-40.
Journal code: 9204109. ISSN: 1058-2916.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199904
ENTRY DATE: Entered STN: 19990426
Last Updated on STN: 19990426
Entered Medline: 19990413

AB A limiting factor of the long-term function of bioartificial organs is oxygen delivery to the encapsulated tissue. This study determined whether incorporation of endothelial cell growth factor (ECGF) into the alginate core of a hollow fiber bioartificial organ will induce neovascularization around the hollow fiber. Polyethersulfone (PES) and polyvinylidine difluoride (PVDF) hollow fibers were examined. Endothelial cell growth factor was incorporated into sodium alginate, extruded into the lumen of hollow fibers, and cured in calcium chloride. Samples without ECGF were fabricated and used as controls. Hollow fibers were implanted into 16 rats. For each rat, two implants were placed subcutaneously and two intraperitoneally, one with and one without ECGF at each site. Implants were placed on opposite sides of each animal. Implants were removed 65 days later and examined using immunohistochemical methods and light microscopy to determine the extent of neovascularization. A total of 64 implants were used. Most intraperitoneal implants were found free floating but were encased within a 100-microm thick avascular fibrotic reaction. This finding was independent from the presence of ECGF. Hollow fibers without ECGF, implanted subcutaneously, also had an avascular fibrotic reaction surrounding each implant. Subcutaneous implants with incorporation of ECGF within the alginate core had marked neovascularization within the **fibrotic overgrowth** that surrounded these implants. This was most prevalent in hollow fibers, with the thin separation layer facing the fiber lumen irrespective of limiting pore size. Potent angiogenic factors, such as ECGF, incorporated into diffusion chamber bioartificial organs can promote neovascularization around the subcutaneously implanted hollow fiber and may improve oxygen delivery to the tissue encapsulated within devices based on this technology.

L24 ANSWER 4 OF 13 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 1998:672361 SCISEARCH
THE GENUINE ARTICLE: 114ZD
TITLE: Viscoelastic behavior of composite ligament prostheses
AUTHOR: Ambrosio L (Reprint); DeSantis R; Iannace S; Netti P A; Nicolais L
CORPORATE SOURCE: UNIV NAPLES FEDERICO II, NATL RES COUNCIL, INST COMPOSITE MAT TECHNOL, PIAZZALE TECCHIO 80, I-80125 NAPLES, ITALY (Reprint); UNIV NAPLES FEDERICO II, INTERDISCIPLINARY RES CTR BIOMAT, I-80125 NAPLES, ITALY
COUNTRY OF AUTHOR: ITALY
SOURCE: JOURNAL OF BIOMEDICAL MATERIALS RESEARCH, (**OCT 1998**) Vol. 42, No. 1, pp. 6-12.
Publisher: JOHN WILEY & SONS INC, 605 THIRD AVE, NEW YORK, NY 10158-0012.
ISSN: 0021-9304.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 21

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Despite the compelling need for artificial **connective tissue** replacements for orthopedic applications, to date, there is no material which can adequately reproduce the mechanical behavior of natural tissue with necessary long-term endurance. In this work, we introduce a novel soft composite material as a more suitable candidate for **connective tissue** replacement. The material proposed is based on a **hydrogel**-polymer matrix reinforced with poly(ethylene terephthalate) fibers wound helically to mimic the architecture of the collagen fibers in natural tissue. Macroscopic behaviors such as static stress-strain, stress relaxation, and dynamic frequency responses can be modulated with choice of the components and design of the composite structure. In doing so, the mechanical characteristics of natural ligaments can be qualitatively reproduced and sustained over time. (C) 1998 John Wiley & Sons, Inc.

L24 ANSWER 2 OF 13 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 1999187219 MEDLINE
DOCUMENT NUMBER: 99187219 PubMed ID: 10087059
TITLE: Rapid induction of functional and morphological continuity between severed ends of mammalian or earthworm myelinated axons.
AUTHOR: Lore A B; Hubbell J A; Bobb D S Jr; Ballinger M L; Loftin K L; Smith J W; Smyers M E; Garcia H D; Bittner G D
CORPORATE SOURCE: Department of Zoology, University of Texas at Austin, Austin, Texas 78712, USA.
CONTRACT NUMBER: HD31484 (NICHD)
NS31256 (NINDS)
SOURCE: JOURNAL OF NEUROSCIENCE, **(1999 Apr 1)** 19 (7) 2442-54.
Journal code: 8102140. ISSN: 0270-6474.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199904
ENTRY DATE: Entered STN: 19990426
Last Updated on STN: 19990426
Entered Medline: 19990413

AB The inability to rapidly restore the loss of function that results from severance (cutting or crushing) of PNS and CNS axons is a severe clinical problem. As a novel strategy to help alleviate this problem, we have developed in vitro procedures using Ca2+-free solutions of polyethylene glycol (PEG solutions), which within minutes induce functional and morphological continuity (PEG-induced fusion) between the cut or crushed ends of myelinated sciatic or spinal axons in rats. Using a PEG-based **hydrogel** that binds to **connective tissue** to provide mechanical strength at the lesion site and is nontoxic to nerve tissues in earthworms and mammals, we have also developed in vivo procedures that permanently maintain earthworm myelinated medial giant axons whose functional and morphological integrity has been restored by PEG-induced fusion after axonal severance. In all these in vitro or in vivo procedures, the success of PEG-induced fusion of sciatic or spinal axons and myelinated medial giant axons is measured by the restored conduction of action potentials through the lesion site, the presence of intact axonal profiles in electron micrographs taken at the lesion site, and/or the intra-axonal diffusion of fluorescent dyes across the lesion site. These and other data suggest that the application of polymeric fusiogens (such as our PEG solutions), possibly combined with a tissue adherent (such as our PEG hydrogels), could lead to in vivo treatments that rapidly and permanently repair cut or crushed axons in the PNS and CNS of adult mammals, including humans.

L5 ANSWER 24 OF 43 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 92:503921 SCISEARCH
THE GENUINE ARTICLE: JJ921
TITLE: EXPERIMENTAL HYBRID ISLET TRANSPLANTATION - APPLICATION OF POLYVINYL-ALCOHOL MEMBRANE FOR ENTRAPMENT OF ISLETS
AUTHOR: INOUE K (Reprint); FUJISATO T; GU Y J; BURCZAK K; SUMI S; KOGIRE M; TOBE T; UCHIDA K; NAKAI I; MAETANI S; IKADA Y
CORPORATE SOURCE: KYOTO UNIV, FAC MED, DEPT SURG 1, KYOTO 606, JAPAN (Reprint)
COUNTRY OF AUTHOR: JAPAN
SOURCE: PANCREAS, (**SEP 1992**) Vol. 7, No. 5, pp. 562-568.
ISSN: 0885-3177.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: No References Keyed

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB In this study, we first examined in vitro a polyvinyl alcohol membrane to be used to contain hybrid islet cells, and second we tested a bioartificial **pancreas** with entrapment of **pancreatic** islets in polyvinyl alcohol membrane in rats with experimentally induced diabetes. The permeability of the polyvinyl alcohol membrane to different substances was studied in a two-cell chamber system. Glucose, insulin, and nutrients passed through the membrane easily, whereas the passage of immunoglobulin G was completely prevented, indicating that this membrane could be effective in protecting the bioartificial **pancreas** from immunorejection. Approximately 2,000 islets collected from three Sprague-Dawley rats were enclosed in a mesh-reinforced polyvinyl alcohol tube and **transplanted** into the peritoneal **cavity** of six Wistar rats with streptozotocin-induced diabetes. Their nonfasting serum glucose levels were significantly decreased for at least 12 days. Six diabetic rats receiving intraperitoneal **transplantation** of free islets without the tube showed a slight but significant decrease in nonfasting serum glucose levels for only 3 days. One diabetic rat with **transplantation** of the bioartificial **pancreas** had a significant and sustained decrease in nonfasting glucose levels from pretransplanted levels of 440-500 mg/dt to a mean value of 162 +/- 13 mg/dl for over 3 months without immunosuppression. The bioartificial **pancreas** was then removed, and glucose levels gradually increased to over 500 mg/dl. The results of the present study suggest that a bioartificial **pancreas** with entrapment of islets in a polyvinyl alcohol membrane could be a promising therapeutic approach to diabetes mellitus.

L13 ANSWER 3 OF 112 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:537942 CAPLUS
DOCUMENT NUMBER: 131:154461
TITLE: Transformation in situ of bone progenitor cells in the treatment of bone damage and disease
INVENTOR(S): Bonadio, Jeffrey; Goldstein, Steven A.
PATENT ASSIGNEE(S): The Regent of the University of Michigan, USA
SOURCE: U.S., 72 pp., Cont.-in-part of U. S. 5,763,416.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
US 5942496	A	19990824	US 1994-316650	19940930	<--
US 5763416	A	19980609	US 1994-199780	19940218	<--
CA 2183542	AA	19950824	CA 1995-2183542	19950221	<--
WO 9522611	A2	19950824	WO 1995-US2251	19950221	<--
WO 9522611	A3	19960208			
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UG					
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
AU 9519686	A1	19950904	AU 1995-19686	19950221	<--
AU 698906	B2	19981112			
EP 741785	A1	19961113	EP 1995-912589	19950221	<--
EP 741785	B1	19991103			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE					
JP 09509825	T2	19971007	JP 1995-520840	19950221	<--
JP 3054634	B2	20000619			
AT 186327	E	19991115	AT 1995-912589	19950221	<--
ES 2139889	T3	20000216	ES 1995-912589	19950221	
US 6074840	A	20000613	US 1995-479722	19950607	
US 5962427	A	19991005	US 1996-631334	19960412	<--
US 2002193338	A1	20021219	US 2002-177680	20020620	

PRIORITY APPLN. INFO.:

US 1994-199780	A2	19940218
US 1994-316650	A	19940930
WO 1995-US2251	W	19950221
US 1999-344581	B1	19990625

L13 ANSWER 41 OF 112 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1993:240842 CAPLUS
DOCUMENT NUMBER: 118:240842
TITLE: Microcapsules for cell entrapment by template polymerization of a synthetic hydrogel coating around calcium alginate gel: Preliminary development
AUTHOR(S): Wen, Shao; Stevenson, W. T. K.
CORPORATE SOURCE: Dep. Chem., Wichita State Univ., Wichita, KS, 67208, USA
SOURCE: Journal of Materials Science: Materials in Medicine (1993), 4(1), 23-31
CODEN: JSMMEL; ISSN: 0957-4530
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Stable, water-sol. glycidyl methacrylate N-vinylpyrrolidinone copolymers (I) were prepd. by free-radical polymn. Water-sol. 2-hydroxyethyl methacrylate-methacrylic acid copolymers (II) were examd. as co-reactants with I to form hydrogel matrixes. Upon mixing of I and II in soln., a covalently crosslinked hydrogel was formed, presumably by etherification of epoxy functionality on I with hydroxyls on II. Synthetic hydrogel-coated gel beads were prepd. from an aq. mixt. of sodium alginate and II by treatment with soln. contg. I and calcium ion. An elastic, defect free and indefinitely stable covalently crosslinked hydrogen coating was formed around the calcium alginate by surface reaction of I and II. Encapsulated guinea-pig red blood cells suffered minimal lysis over a 4 day period due to isolation and protection from the reacting species by the interior alginate gel matrix.

L13 ANSWER 59 OF 112 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:597856 CAPLUS
DOCUMENT NUMBER: 113:197856
TITLE: Microencapsulation of mammalian cells in a HEMA-MMA copolymer: effects on capsule morphology and permeability
AUTHOR(S): Crooks, Colin A.; Douglas, Jon A.; Broughton, Richard L.; Sefton, Michael V.
CORPORATE SOURCE: Dep. Chem. Eng. Appl. Chem., Univ. Toronto, Toronto, ON, M5S 1A4, Can.
SOURCE: Journal of Biomedical Materials Research (1990), 24(9), 1241-62
CODEN: JBMRBG; ISSN: 0021-9304
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A new process for prepg. uniform microcapsules with 2-hydroxyethyl methacrylate-Me methacrylate copolymer (HEMA-MMA) was devised. Capsule diams. were 900-1000 .mu.m, depending on the pptn. conditions. The process involved the coextrusion of polymer soln. (in PEG 200) and the mammalian cell suspension (erythrocytes) through a needle assembly which was submerged in a layer of hexadecane which in turn sitting above a stirred isotonic aq. soln. in a volumetric flask. The morphol. of the capsule wall was altered by changing the pptn. bath from phosphate buffered saline (PBS) to 0.3 M glycerol. This resulted in greater macroporosity in the wall, presumably becaus.epsilon. of the faster pptn. due to the higher solvent/precipitant compatibility with 0.3 M glycerol. The permeability to a series of test solutes (glucose, inulin, albumin, and alc. dehydrogenase, ADH) increased by a factor of .apprx.2, presumably because of the increase macroporosity. Addn. of 15% water to the polymer solvent enhanced the macroporosity, presumably by bringing the system closer to the cloud point; however, there was no corresponding increase in permeability. There was a significant decrease in permeability between that of albumin (.apprx.69,000 D) and ADH (.apprx.150,000 D) suggesting that the mol. wt. cutoff of these capsules was on the order of 100,000 D as desired. This process is now being evaluated for the encapsulation of pancreatic islets and other cells of potential clin. interest.

L16 ANSWER 13 OF 14 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 93:268426 SCISEARCH
THE GENUINE ARTICLE: KY769
TITLE: MICROENCAPSULATION OF LIVE ANIMAL-CELLS USING POLYACRYLATES
AUTHOR: SEFTON M V (Reprint); STEVENSON W T K
CORPORATE SOURCE: UNIV TORONTO, DEPT CHEM ENGN & APPL CHEM, TORONTO M5S 1A1, ONTARIO, CANADA (Reprint); WICHITA STATE UNIV, DEPT CHEM, WICHITA, KS, 67208
COUNTRY OF AUTHOR: CANADA; USA
SOURCE: ADVANCES IN POLYMER SCIENCE, (**1993**) Vol. 107, pp. 143-197.
ISSN: 0065-3195.
DOCUMENT TYPE: General Review; Journal
LANGUAGE: ENGLISH
REFERENCE COUNT: 147

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Organ and tissue transplantation, traditionally supported by immunosuppressant therapy, has entered a new era through the use of semipermeable microcapsules to circumvent rejection pathways by selective isolation of the implant from the hosts immune system. The bewildering structural and behavioral latitude and proven biocompatibility of synthetic polymer based systems make them materials of choice for this application. Herein are described a number of thrusts towards the development of permselective microcapsule based systems for the eventual treatment of Type I **diabetes**, which are based on the structurally diverse and biocompatible methacrylate family of polymers. Thoroughly explored concepts based on the use of uncharged and water insoluble hydroxyalkyl methacrylates are reported, along with studies of polyelectrolyte complex based systems. The preliminary development of systems based on the surface modification of alginate by precipitation of a cationic, emulsion or through formation of a covalently crosslinked network are detailed along with others based on the formation of a cohesive precipitate of alginate stabilized polymethacrylate emulsion. Encapsulated cells include erythrocytes, fibroblasts, lymphoma and CHO cells, and islets of Langerhans. Future work will be geared towards an understanding of interactions between the host and the encapsulated cells and the long term maintenance of normoglycemia in **diabetic** mammals.

L16 ANSWER 12 OF 14 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 93:372045 SCISEARCH
THE GENUINE ARTICLE: LF865
TITLE: CONTROLLED-RELEASE OF DOPAMINE, INSULIN AND OTHER AGENTS FROM MICROENCAPSULATED CELLS
AUTHOR: ULUDAG H; BABENSEE J E; ROBERTS T; KHARLIP L; HORVATH V; SEFTON M V (Reprint)
CORPORATE SOURCE: UNIV TORONTO, CTR BIOMAT, DEPT CHEM ENGN & APPL CHEM, 200 COLL ST, TORONTO M5S 1A4, ONTARIO, CANADA
COUNTRY OF AUTHOR: CANADA
SOURCE: JOURNAL OF CONTROLLED RELEASE, (**01 MAY 1993**)
Vol. 24, No. 1-3, pp. 3-11.
ISSN: 0168-3659.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 23

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Mammalian cells encapsulated within polymeric membranes is a novel way for in vivo controlled release of therapeutic agents. A permselective polymeric membrane, by acting as a permeability barrier for large molecules (such as antibodies) can protect the encapsulated cells from the cytotoxic components of the host's tissue reaction without immunosuppressants. The high membrane permeability for small molecules (such as nutrients, hormones, etc.), on the other hand. will ensure the maintenance of normal physiological state by the encapsulated cells. We have developed an interfacial precipitation technique for encapsulating mammalian cells in polyacrylate membranes. This technique is based on the co-extrusion of a cell suspension and polymer solution through a concentric needle assembly and subsequent formation of a polymeric membrane around the cells in a precipitation bath. Here, we report a summary of our experience with the performance of the encapsulated cells in hydroxyethyl methacrylate-methyl methacrylate (HEMA-MMA) microcapsules.

L16 ANSWER 10 OF 14 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 97:269326 SCISEARCH
THE GENUINE ARTICLE: WQ554
TITLE: An encapsulation system for the immunoisolation of **pancreatic** islets
AUTHOR: Wang T (Reprint); Lacik I; Brissova M; Anilkumar A V; Prokop A; Hunkeler D; Green R; Shahrokhi K; Powers A C
CORPORATE SOURCE: VANDERBILT UNIV, SCH ENGN, CTR MICROGRAV RES, 221 KIRKLAND HALL, NASHVILLE, TN 37235 (Reprint); VANDERBILT UNIV, DEPT BIOCHEM, NASHVILLE, TN 37232; VANDERBILT UNIV, DEPT CHEM ENGN, NASHVILLE, TN 37232; VANDERBILT UNIV, DEPT MED, DIV ENDOCRINOL, NASHVILLE, TN 37232; DEPT VET AFFAIRS MED CTR, NASHVILLE, TN 37232
COUNTRY OF AUTHOR: USA
SOURCE: NATURE BIOTECHNOLOGY, (**APR 1997**) Vol. 15, No. 4, pp. 358-362.
Publisher: NATURE PUBLISHING CO, 345 PARK AVE SOUTH, NEW YORK, NY 10010-1707.
ISSN: 1087-0156.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: English
REFERENCE COUNT: 31

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Over a thousand combinations of polyanions and polycations were tested to search for new polymer candidates that would be suitable for encapsulation of living cells. The combination of sodium alginate, cellulose sulfate, poly (methylene-co-guanidine) hydrochloride, calcium chloride, and sodium chloride was most promising. In parallel, a novel multiloop chamber reactor was developed to control the time of complex formation and to negate gravitational effects such as **pancreatic** islet sedimentation and droplet deformation during the encapsulation process. Encapsulated rat islets demonstrated glucose-stimulated insulin secretion in vitro, and reversed **diabetes** in mice. This new capsule formulation and encapsulation system allows independent adjustments of capsule size, wall thickness, mechanical strength, and permeability, which may offer distinct advantages for immunoisolating cells.

L16 ANSWER 9 OF 14 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 97:540923 SCISEARCH
THE GENUINE ARTICLE: XK638
TITLE: Encapsulation of mammalian cells into synthetic polymer membranes using least toxic solvents
AUTHOR: Morikawa N; Iwata H; Matsuda S; Miyazaki J; Ikada Y (Reprint)
CORPORATE SOURCE: KYOTO UNIV, BIOMED ENGN RES CTR, SAKYO KU, 53 KAWAHARA CHO, KYOTO 606, JAPAN (Reprint); KYOTO UNIV, BIOMED ENGN RES CTR, SAKYO KU, KYOTO 606, JAPAN; UNIV TOKYO, FAC MED, DEPT DIS RELATED GENE REGULAT RES, TOKYO, JAPAN
COUNTRY OF AUTHOR: JAPAN
SOURCE: JOURNAL OF BIOMATERIALS SCIENCE-POLYMER EDITION, (**MAR 1997**) Vol. 8, No. 8, pp. 575-586.
Publisher: VSP BV, PO BOX 346, 3700 AH ZEIST, NETHERLANDS.
ISSN: 0920-5063.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 11

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Immunoisolation, that is, enclosure of cells within a semipermeable membrane to protect them from immunological rejection, may enable the transplantation of cells without use of immunosuppressive drugs. Therefore, in addition to naturally-occurring ionic polymers, several synthetic nonionic polymers which can form dense and strong membranes in water have been studied as materials for immunoisolation. However, such nonionic polymers are required to be soluble in organic solvents which are mostly cytotoxic. In this report we describe enclosure of insulin-releasing cells into water-insoluble poly(2-hydroxyethyl methacrylate) and poly(2-hydroxyethyl methacrylate-co-methyl methacrylate) membranes using X-ray contrast medium as a solvent without use of any special apparatus. The contrast medium employed in our study is iopamidol aqueous solution. Insulin release was observed for 1 month when insulin-releasing cells were encapsulated into these membranes. The permeability of five solutes through the membranes prepared from the iopamidol aqueous solution was also studied to determine their potential immunoisolative efficacy.

L16 ANSWER 8 OF 14 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 1998:13954 SCISEARCH
THE GENUINE ARTICLE: YL812
TITLE: New capsule with tailored properties for the encapsulation of living cells
AUTHOR: Lacik I; Brissova M (Reprint); Anilkumar A V; Powers A C; Wang T
CORPORATE SOURCE: VANDERBILT UNIV, CTR MICROGRAV RES & APPLICAT, POB 6079, STN B, NASHVILLE, TN 37235 (Reprint); VANDERBILT UNIV, CTR MICROGRAV RES & APPLICAT, NASHVILLE, TN 37235; VANDERBILT UNIV, DIV ENDOCRINOL, NASHVILLE, TN 37232; DEPT VET AFFAIRS MED CTR, NASHVILLE, TN 37232
COUNTRY OF AUTHOR: USA
SOURCE: JOURNAL OF BIOMEDICAL MATERIALS RESEARCH, (**JAN 1998**) Vol. 39, No. 1, pp. 52-60.
Publisher: JOHN WILEY & SONS INC, 605 THIRD AVE, NEW YORK, NY 10158-0012.
ISSN: 0021-9304.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 36

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB A new capsule for the encapsulation and transplantation of **pancreatic** islets has been developed. Five active ingredients are involved in the capsule formation process: high viscosity sodium alginate (SA-HV), cellulose sulfate (CS), poly(methylene-co-guanidine) hydrochloride (PMCG), calcium chloride, and sodium chloride. Complexation reaction exhibits several unique features: (1) solution of SA-HV with CS represents a physical mixture of two entangled polyanions that provide both pH-sensitive (carboxylic) and permanently charged (sulfate) groups; (2) presence of CaCl2 in the cation solution ensures formation of the gelled bead after the drop of polyanion solution is immersed in the cation solution; (3) character of the polycation (PMCG), i.e., low molecular weight and unusually high charge density, combines both high mobility and reactivity; (4) presence of PMCG in cation solution, together with CaCl2, gives rise to the competitive binding of these two cations based on their diffusion and affinity towards the anion groups; and (5) NaCl provides the anti-gelling sodium ions that significantly affect the reaction of CaCl2 with the polyanion matrix, thus altering the final properties of the capsule surface, shape, and permeability. The capsule size, mechanical strength, membrane thickness, and permeability can be precisely adjusted and quantified. Detailed information on the permeability aspects is given in another paper by Brissova et al. [J. Biomed. Mater. Sci., 39, 61 (1998)]. The new features concerning capsule processing and testing are presented. We believe that the capsule characteristics can be optimized in the next step to meet the biological criteria. The initial transplantation results suggest that this capsule is biocompatible and noncytotoxic and is a promising candidate for the immunoisolation of cells such as **pancreatic** islets. (C) 1998 John Wiley & Sons, Inc.

L16 ANSWER 7 OF 14	SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER:	1998:114748 SCISEARCH
THE GENUINE ARTICLE:	BK30T
TITLE:	Permeability assessment of capsules for islet transplantation
AUTHOR:	Powers A C (Reprint); Brissova M; Lacik I; Anilkumar A V; Shahrokhi K; Wang T G
CORPORATE SOURCE:	VANDERBILT UNIV, DEPT MED, DIV ENDOCRINOL, 715 MRB 2, NASHVILLE, TN 37232 (Reprint); DEPT VET AFFAIRS MED CTR, NASHVILLE, TN 37232; VANDERBILT UNIV, SCH ENGN, CTR MICROGRAV RES, NASHVILLE, TN 37235
COUNTRY OF AUTHOR:	USA
SOURCE:	ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (**DEC 1997**) Vol. 831, pp. 208-216. Publisher: NEW YORK ACAD SCIENCES, 2 EAST 63RD ST, NEW YORK, NY 10021. ISSN: 0077-8923.
DOCUMENT TYPE:	Article; Journal
FILE SEGMENT:	LIFE
LANGUAGE:	English
REFERENCE COUNT:	39

L16 ANSWER 6 OF 14 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 1998:738032 SCISEARCH
THE GENUINE ARTICLE: 122AY
TITLE: Microencapsulation: a review of polymers and technologies with a focus on bioartificial organs
AUTHOR: Renken A (Reprint); Hunkeler D
CORPORATE SOURCE: SWISS FED INST TECHNOL, LAB POLYMERS & BIOMAT, DEPT CHEM, CH-1015 LAUSANNE, SWITZERLAND (Reprint)
COUNTRY OF AUTHOR: SWITZERLAND
SOURCE: POLIMERY, (**18 AUG 1998**) Vol. 43, No. 9, pp. 530-539.
Publisher: INDUSTRIAL CHEMISTRY RESEARCH INST, 8 RYDYGIERA STR, 01-793 WARSAW, POLAND.
ISSN: 0032-2725.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 54

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Various immunoisolation technologies including arteriovenous shunts, diffusion chambers and microcapsules are reviewed and various microcapsule production techniques are discussed. This encompasses syringe based droplet generation devices, various emulsion techniques and rotating discs. Polymers used for the formation of permselective microcapsules and capsular membranes are also presented. In particular, the immunoisolation of islets for the production of a bioartificial **pancreas** is evaluated. Screening of polyelectrolytes with respect to cell cytotoxicity is discussed along with a summary of various polymer chemistries, mechanisms of membrane formation and microencapsulation technologies. A systematic categorization is proposed and four cases are compared in detail: Sun's alginate/calcium chloride-based precast beads (Type I-B-chi), Dautzenberg's binary polyanion/polycation coacervation systems (Type II-A-alpha), Sefton's phase inversion systems based on non-ionic, elastic, hydrophobic copolymers (Type IV-F-delta), and a new multicomponent polyelectrolyte capsule with gel precasting and oligocation diffusion to control the cutoff (Type III-E-chi). In vitro and in vivo testing of xenograft functioning in the Type III-E-chi system will be reported.

L16 ANSWER 3 OF 14 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 1999:595077 SCISEARCH
THE GENUINE ARTICLE: 219TV
TITLE: In vitro and in vivo performance of porcine islets encapsulated in interfacially photopolymerized poly(ethylene glycol) diacrylate membranes
AUTHOR: Cruise G M; Hegre O D; Lamberti F V; Hager S R; Hill R; Scharp D S; Hubbell J A (Reprint)
CORPORATE SOURCE: SWISS FED INST TECHNOL, DEPT MAT, MOUSSONSTR 18, CH-8044 ZURICH, SWITZERLAND (Reprint); SWISS FED INST TECHNOL, DEPT MAT, CH-8044 ZURICH, SWITZERLAND; SWISS FED INST TECHNOL, INST BIOMED ENGN, CH-8044 ZURICH, SWITZERLAND; UNIV ZURICH, CH-8044 ZURICH, SWITZERLAND; CALTECH, DIV CHEM & CHEM ENGN, PASADENA, CA 91125; UNIV TEXAS, DEPT CHEM ENGN, AUSTIN, TX 78712; NEOCRIN CO, IRVINE, CA 92618
COUNTRY OF AUTHOR: SWITZERLAND; USA
SOURCE: CELL TRANSPLANTATION, (**MAY-JUN 1999**) Vol. 8, No. 3, pp. 293-306.
Publisher: COGNIZANT COMMUNICATION CORP, 3 HARTSDALE ROAD, ELMSFORD, NY 10523-3701.
ISSN: 0963-6897.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 22

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The usefulness of interfacial photopolymerization of poly(ethylene glycol) (PEG) diacrylate at a variety of concentrations and molecular weights to form hydrogel membranes for encapsulating porcine islets of Langerhans was investigated. The results from this study show in vitro and in vivo function of PEG-encapsulated porcine islets and the ability of PEG membranes to prevent immune rejection in a discordant xenograft model. Encapsulated islets demonstrated an average viability of 85% during the first week after encapsulation, slightly but significantly lower than unencapsulated controls. Encapsulated porcine islets were shown to be glucose responsive using static glucose stimulation and perifusion assays. Higher rates of insulin release were observed for porcine islets encapsulated in lower concentrations of PEG diacrylate (10-13%), not significantly reduced relative to unencapsulated controls, than were observed in islets encapsulated in higher concentrations (25%) of PEG diacrylate. Perifusion results showed biphasic insulin release from encapsulated islets in response to glucose stimulation. Streptozotocin-induced **diabetic** athymic mice maintained normoglycemia for up to 110 days after the implantation of 5,000-8,000 encapsulated porcine islet equivalents into the peritoneal cavity. Normoglycemia was also confirmed in these animals using glucose tolerance tests. PEG diacrylate-encapsulated porcine islets were shown to be viable and contain insulin after 30 days in the peritoneal cavity of Sprague-Dawley rats, a discordant xenograft model. From these studies, we conclude that PEG diacrylate encapsulation of porcine islets by interfacial photopolymerization shows promise for use as a method of xenoprotection toward a bioartifical endocrine **pancreas**.

L16 ANSWER 1 OF 14 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 2000:479753 SCISEARCH
THE GENUINE ARTICLE: 325YW
TITLE: Engineering and material considerations in islet cell transplantation
AUTHOR: Chaikof E L (Reprint)
CORPORATE SOURCE: EMORY UNIV, SCH MED, DEPT SURG, ATLANTA, GA 30322 (Reprint); GEORGIA INST TECHNOL, SCH CHEM ENGN, ATLANTA, GA 30322
COUNTRY OF AUTHOR: USA
SOURCE: ANNUAL REVIEW OF BIOMEDICAL ENGINEERING, (**5 MAY 1999**) Vol. 1, pp. 103-127.
Publisher: ANNUAL REVIEWS, 4139 EL CAMINO WAY, PO BOX 10139, PALO ALTO, CA 94303-0139.
ISSN: 1523-9829.
DOCUMENT TYPE: General Review; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 102

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The successful application and optimization of cell transplantation will require quantitative engineering design and analysis of cells and materials in which relevant biological processes remain complex and incompletely defined. This report primarily reviews the engineering and material considerations in islet cell transplantation, including established biological constraints and biohybrid devices for cell delivery, as well as available barrier materials and the associated processing strategies directed at the control of solute transport, barrier permeability, and host responses at the biological-material interface. Also described are current areas of investigation with particular promise as enabling technologies for accelerating the clinical effectiveness of islet cell transplantation.

L13 ANSWER 112 OF 112 MEDLINE on STN
ACCESSION NUMBER: 64085550 MEDLINE
DOCUMENT NUMBER: 64085550
TITLE: A **CAPSULE** HOLDER FOR EMBEDDING SURFACE-CULTURED **CELLS** OR THIN TISSUE SECTIONS IN **METHACRYLATE**.
AUTHOR: PERSIJN J P; DAEMS W T
SOURCE: STAIN TECHNOLOGY, **(1964 MAR)** 39 125-8.
ISSN: 0038-9153.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal
LANGUAGE: English
FILE SEGMENT: OLDMEDLINE
ENTRY MONTH: 196407
ENTRY DATE: Entered STN: 19990716
Last Updated on STN: 19990716

L13 ANSWER 94 OF 112 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1984:176493 BIOSIS
DOCUMENT NUMBER: PREV198477009477; BA77:9477
TITLE: PRESERVATION OF ULTRASTRUCTURE OF CELLS CULTURED ON PROTEIN HYDROXYETHYL METHACRYLATE HYDROGELS.
AUTHOR(S): TOSELLI P [Reprint author]; FARIS B; OLIVER P; WEDEL N; FRANZBLAU C
CORPORATE SOURCE: DEPARTMENT OF BIOCHEMISTRY, BOSTON UNIVERSITY SCHOOL OF MEDICINE, 80 EAST CONCORD STREET, BOSTON, MASSACHUSETTS 02118, USA
SOURCE: Journal of Ultrastructure Research, (1983) Vol. 83, No. 2, pp. 220-232.
CODEN: JULRA7. ISSN: 0022-5320.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
AB A method for studying the ultrastructure of cells grown on hydroxyethylmethacrylate (HEMA) hydrogels is described. Under normal conditions, HEMA hydrogels tend to swell when placed in hypotonic solutions and to shrink during alcohol dehydration. To overcome this severe swelling and/or shrinking, all solutions used during the fixation procedure are made in Puck's saline G, and dehydration is accomplished with a graded series of ethanol solutions prepared with Puck's saline G and polyethylene glycol. Infiltration of the sample with embedding material is achieved with the aid of a vacuum oven. The cells [human embryonic lung fibroblast-IMR-90 **cell** and calf aorta **endothelial cell**] cultured on collagen **hydrogels** are ultrastructurally indistinguishable from those cultured on tissue-culture plastic. The unusual crater-like topography of the hydrogel can be utilized as an experimental aid in the study of cell attachment and spreading.

L13 ANSWER 79 OF 112 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 87:541378 SCISEARCH
THE GENUINE ARTICLE: K1129
TITLE: ADHESION OF CULTURED HUMAN-**ENDOTHELIAL CELLS** ONTO **METHACRYLATE** POLYMERS WITH VARYING SURFACE WETTABILITY AND CHARGE
AUTHOR: VANWACHEM P B (Reprint); HOGT A H; BEUGELING T; FEIJEN J; BANTJES A; DETMERS J P; VANAKEN W G
CORPORATE SOURCE: TWENTE UNIV TECHNOL, DEPT CHEM TECHNOL, POB 217, 7500 AE ENSCHEDE, NETHERLANDS (Reprint)
COUNTRY OF AUTHOR: NETHERLANDS
SOURCE: BIOMATERIALS, (**1987**) Vol. 8, No. 5, pp. 323-328.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 34

L13 ANSWER 78 OF 112 MEDLINE on STN DUPLICATE 27
ACCESSION NUMBER: 88051131 MEDLINE
DOCUMENT NUMBER: 88051131 PubMed ID: 3676418
TITLE: Adhesion of cultured human **endothelial cells** onto **methacrylate** polymers with varying surface wettability and charge.
AUTHOR: van Wachem P B; Hogt A H; Beugeling T; Feijen J; Bantjes A; Detmers J P; van Aken W G
CORPORATE SOURCE: Department of Chemical Technology, Twente University of Technology, Enschede, The Netherlands.
SOURCE: BIOMATERIALS, **(1987 Sep)** 8 (5) 323-8.
Journal code: 8100316. ISSN: 0142-9612.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198801
ENTRY DATE: Entered STN: 19900305
Last Updated on STN: 19900305
Entered Medline: 19880111

AB The adhesion of human endothelial cells (HEC) onto a series of well-characterized methacrylate polymer surfaces with varying wettabilities and surface charges was studied either in serum-containing (CMS) or in serum-free (CM) culture medium. HEC adhesion in CMS onto (co)polymers of hydroxyethyl methacrylate (HEMA) and methyl methacrylate (MMA) was found to be optimal on the moderately wettable copolymer (mol ratio 25 HEMA/75 MMA). Positively-charged copolymers of HEMA or MMA with trimethylaminoethyl methacrylate-HCl salt (TMAEMA-Cl), both with mol ratios of 85/15 and a negatively-charged copolymer of MMA with methacrylic acid (MAA), mol ratio 85/15, showed high numbers of adhering HEC. In CM, HEC adhered onto the three charged copolymers mentioned above, but neither onto the copolymer of HEMA and MAA (mol ratio 85/15) nor onto the HEMA/MMA co- and homopolymers. Complete cell spreading in CM was only observed on the positively-charged copolymers.

L13 ANSWER 74 OF 112 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:133553 CAPLUS
DOCUMENT NUMBER: 110:133553
TITLE: Techniques for preparing hydrogel membrane capsules
AUTHOR(S): Nigam, Somesh C.; Tsao, I Fu; Sakoda, Akiyoshi; Wang, Henry Y.
CORPORATE SOURCE: Dep. Chem. Eng., Univ. Michigan, Ann Arbor, MI, 48109, USA
SOURCE: Biotechnology Techniques (**1988**), 2(4), 271-6
CODEN: BTECE6; ISSN: 0951-208X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Techniques for prepg. 4 kinds of hydrogel membrane capsules are described. The material being encapsulated remains in its original environment in an aq. suspension. Capsule characteristics such as size, membrane thickness, pore size, and surface charge can be controlled over a wide range.

L13 ANSWER 70 OF 112 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 89:115268 SCISEARCH
THE GENUINE ARTICLE: T3407
TITLE: BIOCHEMISTS KEEP **CELLS** ALIVE IN **HYDROGEL CAPSULES**
AUTHOR: UNAVAILABLE
SOURCE: RESEARCH & DEVELOPMENT, (**1989**) Vol. 31, No. 2, pp. 44.
DOCUMENT TYPE: Editorial; Journal
FILE SEGMENT: ENGI
LANGUAGE: ENGLISH
REFERENCE COUNT: No References

L13 ANSWER 67 OF 112 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:32880 CAPLUS
DOCUMENT NUMBER: 112:32880
TITLE: Effect of capsule permeability on growth of CHO cells in Eudragit RL microcapsules: use of FITC-dextran as a marker of capsule quality
AUTHOR(S): Broughton, Richard L.; Sefton, Michael V.
CORPORATE SOURCE: Cent. Biomater., Univ. Toronto, Toronto, ON, M5S 1A4, Can.
SOURCE: Biomaterials (1989), 10(7), 462-5
CODEN: BIMADU; ISSN: 0142-9612
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Chinese hamster ovary (CHO) fibroblast cells were encapsulated in Eudragit RL by interfacial pptn. After encapsulation, they grew to fill the capsules, eventually growing outside the capsules as well. By encapsulating FITC-dextran (mol. wt. 150,000) along with the cells, it was possible to show that cell growth was faster in those capsules which lost fluorescence soon after encapsulation. These data were interpreted to signify that the intact Eudragit RL capsule membrane offered significant diffusion resistance to vital nutrients or particular metabolites, slowing or even preventing growth.

L13 ANSWER 47 OF 112 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1991:415632 CAPLUS
DOCUMENT NUMBER: 115:15632
TITLE: Encapsulated osteoprogenitor cells for promoting hard tissue healing
INVENTOR(S): Schlameus, Herman Wade; Fox, William Casey; Mangold, Donald Jacob; Triplett, Robert Gill; Holt, George Richard; Aufdemorte, Thomas Bruce
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9101720	A1	19910221	WO 1990-US4381	19900806 <--
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				

PRIORITY APPLN. INFO.: US 1989-389455 19890807

AB Osteoprogenitor cells encapsulated in alginate, polylysine, agarose or other biodegradable polymers promote regeneration of bone at the site of implantation. Sterile Na alginate was added to dog osteoprogenitor cells and then pumped through a needle onto a collection bath of 1.3% CaCl2 contg. Tween 20 to obtain alginate microcapsules. The above microcapsules were formed into wafers composed of agarose and were implanted into stable fracture in dogs. Dogs were then sacrificed after 12 wk. Histol. examn. of the bone showed that 100% of the original defect was filled with new bone.

L13 ANSWER 29 OF 112 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN DUPLICATE 11

ACCESSION NUMBER: 94:523209 SCISEARCH
THE GENUINE ARTICLE: PC347
TITLE: RECRUITMENT OF TISSUE RESIDENT CELLS TO HYDROGEL COMPOSITES - IN-VIVO RESPONSE TO IMPLANT MATERIALS
AUTHOR: SPARGO B J (Reprint); RUDOLPH A S; ROLLWAGEN F M
CORPORATE SOURCE: USN, RES LAB, CTR BIOMOLEC SCI & ENGN, CODE 6900, WASHINGTON, DC, 20375 (Reprint); USN, MED RES INST, WOUND REPAIR ENHANCEMENT PROGRAM, BETHESDA, MD, 20889
COUNTRY OF AUTHOR: USA
SOURCE: BIOMATERIALS, (**AUG 1994**) Vol. 15, No. 10, pp. 853-858.
ISSN: 0142-9612.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 14

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB A model of local cellular recruitment was established using **hydrogel** matrices composed of alginate **implanted** subcutaneously into mice. **Cells** which trafficked to the matrix blocks were recovered and characterized for surface phenotype using iluorescently labelled antibodies and flow cytometry (fluorescence activated cell sorting). Temporal information of the differential recruitment of cells was determined. The basic pattern of recruitment in response to the hydrogels was established and mimicked that seen in a local inflammatory response. Neutrophils (PMN) were rapidly recruited (1 d) followed by macrophages and lymphocytes (1-3 d). Cell surface phenotype studies included the determination of CD3(+), CD4(+) and CD8(+) cells, Mac-1(+) cells, and immunoglobulin bearing cells. Microscopic analysis revealed numerous activated PMNs and monocyte derived foamy macrophages. Fluorescence immunocytochemistry of frozen sections of the block revealed that macrophages, CD3(+) and natural killer tells were all recruited to the interior of the block. Ultrastructural analysis (transmission electron microscopy) showed highly activated macrophages, with abundant rough endoplasmic reticulum and secretory vesicles. Cells which remained on the surface of the matrix block were CD44 positive migratory cells. Electron microscopic evidence showed foamy macrophages with a varying degree of involvement with the hydrogel material. Surface scanning electron microscopy revealed numerous fibroblast-like cells coating the surface of the block. We suggest that these methods may be used to address the inflammatory response elicited with a variety of implanted materials such as hydrogels, silicones, ceramics and metals. Furthermore, this model has been useful in determining cellular responses to cytokines and growth factors under similar conditions.

L13 ANSWER 28 OF 112 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:696487 CAPLUS
DOCUMENT NUMBER: 121:296487
TITLE: Viability and protein secretion from human hepatoma (HepG2) cells encapsulated in 400-.mu.m polyacrylate microcapsules by submerged nozzle-liquid jet extrusion
AUTHOR(S): Uludag, Hasan; Horvath, Vlad; Black, John P.; Sefton, Michael V.
CORPORATE SOURCE: Dep. Chem. Eng., Applied Chem., Center Biomaterials, Univ. Toronto, Toronto, ON, M5S 1A4, Can.
SOURCE: Biotechnology and Bioengineering (**1994**), 44(10), 1199-204
CODEN: BIBIAU; ISSN: 0006-3592
PUBLISHER: Wiley
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An interfacial pptn. process to encapsulate mammalian cells in hydroxyethyl methacrylate-Me methacrylate (HEMA-MMA) microcapsules of .apprx.750 in .mu.m diam. was previously described. It was not possible to produce smaller capsules due to low shearing force. A new droplet generation scheme was developed by suspending the cell and polymer co-extrusion nozzle in a uniform co-axial fluid jet which enabled the prodn. of 300-600-.mu.m diam. capsules. HepG2 hepatoma cells in 400-.mu.m-diam. HEMA-MMA capsules were able to retain their metabolic activity during and after the encapsulation process. The in vitro secretion of plasma proteins .alpha.1-acid glycoprotein, .alpha.1-antitrypsin, and fibrinogen by the encapsulated cells was retained. The encapsulated cells secreted less fibrinogen (340 kD) relative to .alpha.1-acid glycoprotein (42 kD), indicating the sieving effect (but not abs. cut-off) of the HEMA-MMA membrane.

L6 ANSWER 56 OF 57 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1969:516521 CAPLUS
DOCUMENT NUMBER: 71:116521
TITLE: Permeable acrylic resin coatings for preparation of **depot** pharmaceuticals. II. Coating of granulates and pellets, preparation of tablets. 2
AUTHOR(S): Lehmann, Klaus; Dreher, D.
CORPORATE SOURCE: Pharm. Lab., Roehm and Haas G.m.b.H., Darmstadt, Fed. Rep. Ger.
SOURCE: Pharmazeutische Industrie (**1969**), 31(6), 409-12
CODEN: PHINAN; ISSN: 0031-711X
DOCUMENT TYPE: Journal
LANGUAGE: German

AB The initial dose and release rate of a trifluoperazine dihydrochloride tablet contg. 20% starch and coated with 3.0 mg./cm.2 "Eudragit retard-s" were increased greatly by compressing the tablets at 2 tons/cm.2 The time to 90% release decreased from .apprx.9 to 1.5 hrs. Pressing the tablet at 8 tons/cm.2 gave a time to 90% release of .apprx.3 hrs. The increase in release rate was thought to result from local thinning or small perforations in the coating. The initial dose in a tablet contg. 20% talc filler was increased from 5 to 15% by compression, but the release rate remained nearly the same. The time to 90% release was shortened slightly. Incompletely coated, irregularly shaped granules coated poorly and had a very high release rate. Round tablets gave much better coatings and had about the same initial release rates for tablet-prepn. pressures of 1 and 8 tons/cm.2 The tablets prepd. at the lower pressure had lower release rates after .apprx.5 hrs. Increasing the coating level increased the time to 80% release, but only affected the initial dose when the filler was mainly talc. The time to 80% release increased with increasing proportions of talc in the talc-lactose filler. Reticulated tablets pressed from coated granules had initial doses of 10-30%, followed by a 1st-order release-rate curve. The initial dose and the release rate were decreased when the tablets were coated after pressing with a permeable acrylic compn.

L6 ANSWER 55 OF 57 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1970:491225 CAPLUS
DOCUMENT NUMBER: 73:91225
TITLE: Acrylate-acrylamide copolymers as bases for **depot** preparations
AUTHOR(S): Determann, Helmut; Lotz, Rudolf
CORPORATE SOURCE: Inst. Org. Chem., Univ. Frankfurt/Main, Frankfurt/M., Fed. Rep. Ger.
SOURCE: Pharmazeutische Industrie (**1970**), 32(6), 469-73
CODEN: PHINAN; ISSN: 0031-711X
DOCUMENT TYPE: Journal
LANGUAGE: German
AB The rate at which low-mol.-wt. compds. were released from ethylene glycol diacrylate-cross-linked acrylamide (I)-Me **methacrylate** copolymer **depot** prepns., obtained by swelling granules of the polymer in org. solns. of the compds. and evapg. the solvent, depended on the water soly. of the compd., the affinity of the compd. for the polymer, and the polymer properties. The release rate generally increased as the polymer hydrophilicity (i.e. I content) and the compd. water soly. increased and decreased with increasing polymer particle size and decreasing initial compd. concn. in the polymer. The affinity of various compds. and polymers could be detd. by chromatographing the compds. on polymer-packed columns.

L6 ANSWER 53 OF 57 MEDLINE on STN DUPLICATE 10

ACCESSION NUMBER: 73013624 MEDLINE
DOCUMENT NUMBER: 73013624 PubMed ID: 5075743
TITLE: [Preparation of **polyacrylamide** gel containing hormones for the **depot** administration in vivo]. Priprava polyakrylamidoveho gelu s obsahem hormonu pro deptni aplikaci in vivo.
AUTHOR: Bednarik T; Cervenka J; Kotasek A; Brestak M
SOURCE: CESKOSLOVENSKA FARMACIE, **(1972 Sep)** 21 (7) 329-31.
Journal code: 0372720. ISSN: 0009-0530.
PUB. COUNTRY: Czechoslovakia
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Czech
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197211
ENTRY DATE: Entered STN: 19900310
Last Updated on STN: 19900310
Entered Medline: 19721129

L6 ANSWER 50 OF 57 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:552341 CAPLUS
DOCUMENT NUMBER: 83:152341
TITLE: Microcapsules and their use for injectable drugs
INVENTOR(S): Queuille, Andre; Brenot, Francoise; Azadian, Genevieve
PATENT ASSIGNEE(S): Roussel-UCLAF
SOURCE: Ger. Offen., 15 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2435664	A1	19750206	DE 1974-2435664	19740724 <--
FR 2238477	A1	19750221	FR 1973-27577	19730727 <--
NL 7409978	A	19750129	NL 1974-9978	19740724 <--
JP 50076223	A2	19750621	JP 1974-84686	19740725 <--
BE 818154	A1	19750127	BE 1974-147003	19740726 <--
DK 7404042	A	19750401	DK 1974-4042	19740729 <--
GB 1482663	A	19770810	GB 1974-33380	19740729 <--

PRIORITY APPLN. INFO.: FR 1973-27577 19730727

AB Microspheres of acrylate polymers are pptd. in the range of 20-50 microns and are combined with a large no. of drugs for long term release. These microspheres are designed in such a manner that they are suitable for s.c. or i.m. injections and will serve as **depot** form of the drugs incorporated into these microspheres. Thus an aq. phase contg. carboxal 961, Na CM cellulose, Na2SO4 and polysorbate 80 is mixed with an oil phase contg. Me and Bu acrylates, **methacrylic** acid, divinylbenzene-ethylvinylbenzene 50% soln., crotonic acid, poly(vinyl acetate), di-Et sebacate, Cutina M.D., antifoaming agent and testosterone acetate [1045-69-8]. The mixt. was heated and stirred with persulfate and azobisisobutyronitrile to give microcapsules.

L6 ANSWER 48 OF 57 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1976:598179 CAPLUS
DOCUMENT NUMBER: 85:198179
TITLE: Polymer particles of submicroscopic size, suspendible in hydrophilic or hydrophobic media, for carrying biologically active material
INVENTOR(S): Kreuter, Joerg; Speiser, Peter P.
PATENT ASSIGNEE(S): Switz.
SOURCE: Ger. Offen., 18 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2611143	A1	19761014	DE 1976-2611143	19760317 <--
DE 2611143	C2	19890413		
CH 614856	A	19791228	CH 1975-3573	19750320 <--
CH 618352	A	19800731	CH 1975-6125	19750513 <--
DK 7601050	A	19760921	DK 1976-1050	19760311 <--
DK 143689	B	19810928		
DK 143689	C	19820315		
NL 7602717	A	19760922	NL 1976-2717	19760316 <--
NL 188502	B	19920217		
NL 188502	C	19920716		
GB 1544107	A	19790411	GB 1976-10443	19760316 <--
BE 839748	A1	19760920	BE 1976-165320	19760318 <--
FR 2304326	A1	19761015	FR 1976-7872	19760318 <--
FR 2304326	B1	19790921		
JP 51118823	A2	19761019	JP 1976-31900	19760319 <--
JP 62059088	B4	19871209		
AU 7612208	A1	19770922	AU 1976-12208	19760319 <--
US 4225581	A	19800930	US 1978-931680	19780807 <--
US 4269821	A	19810526	US 1980-146018	19800502 <--

PRIORITY APPLN. INFO.:

CH 1975-3573	19750320
CH 1975-6125	19750513
US 1976-666611	19760315
US 1977-862213	19771219
US 1978-931680	19780807

AB Vaccines enclosed in or adsorbed to submicroscopic (500-3000 .ANG. diam.) polymer particles showed a strong adjuvant effect and provide prolonged antigenic stimulation after a single injection. For example, 0.4 ml Me **methacrylate** was added to 50 ml influenza vaccine, shaken, left for 1-3 days at 4.degree., gassed with N, and polymd. by irradn. with 0.46 Mrad 60Co. **Depot** formulations of drugs such as insulin-HCl [9039-55-8] are prepd. similarly.

L6 ANSWER 42 OF 57 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1984:73911 CAPLUS
DOCUMENT NUMBER: 100:73911
TITLE: Model antiheparin **depot** preparation
AUTHOR(S): Skorodinskaya, A. M.; Kemenova, V. A.; Chernova, O. V.; Efimov, V. S.; Lakin, K. M.; Zezin, A. B.; Kobanov, V. A.
CORPORATE SOURCE: NII Biol. Ispytan. Khim.-Soedin., Moscow, USSR
SOURCE: Khimiko-Farmatsevticheskii Zhurnal (**1983**), 17(12), 1463-7
CODEN: KHFZAN; ISSN: 0023-1134
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Addn. of a model heparin [9005-49-6] antagonist, poly(N-ethyl-4-vinylpyridinium bromide) [25619-82-3] in a Na poly(Me **methacrylate**) [29503-40-0] composite prepn., to heparin (left over as excess after extracorporeal circulation or surgery) decreased the toxicity of heparin. The antiheparin activity of the compn. did not change during the treatment. The release of the antagonist from the composite was slow, thus minimizing the toxicity due to antagonist itself.

L6 ANSWER 38 OF 57 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1987:38499 CAPLUS
DOCUMENT NUMBER: 106:38499
TITLE: Antitumor **depot**
INVENTOR(S): Wahlig, Helmut; Dingeldein, Elvira
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Fed. Rep. Ger.
SOURCE: Ger. Offen., 16 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
DE 3513938	A1	19861023	DE 1985-3513938	19850418	<--
AU 8654656	A1	19861023	AU 1986-54656	19860312	<--
AU 587432	B2	19890817			
EP 202445	A2	19861126	EP 1986-104723	19860407	<--
EP 202445	A3	19870812			
EP 202445	B1	19910220			
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE					
AT 60904	E	19910315	AT 1986-104723	19860407	<--
CA 1282330	A1	19910402	CA 1986-506775	19860416	<--
JP 61243015	A2	19861029	JP 1986-87256	19860417	<--
HU 44170	A2	19880229	HU 1986-1608	19860417	<--
HU 198383	B	19891030			
ES 554090	A1	19880316	ES 1986-554090	19860417	<--
ZA 8602947	A	19870930	ZA 1986-2947	19860418	<--

PRIORITY APPLN. INFO.: DE 1985-3513938 19850418
EP 1986-104723 19860407

AB An implantable sustained-release **depot** for the treatment of tumor contains a cytostatic agent and an amino acid (particle size <125 .mu.m) incorporated into **polyacrylate** and/or polymethacrylate. Thus, 39.2 g bead poly(Me acrylate-Me **methacrylate**), contg. 0.5% Bz2O2 at traces of chlorophyll, was mixed with 0.8 g L-arginine, 0.5 g methotrexate and 20 mL Me **methacrylate**, contg. 0.7% dimethyl-p-toluidine and 0.006% hydroquinone, to give an antitumor implant.

L6 ANSWER 32 OF 57 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:617943 CAPLUS
DOCUMENT NUMBER: 113:217943
TITLE: The control of drug release from **depot** capsules by weak electric fields
AUTHOR(S): Groning, Ruediger; Schrader, Dirk; Schwarze, Stephan
CORPORATE SOURCE: Inst. Pharm. Technol., Univ. Muenster, Muenster, Fed. Rep. Ger.
SOURCE: Acta Pharmaceutica Technologica (**1989**), 35(3), 152-4
CODEN: APTEDD; ISSN: 0340-3157
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The possibility of actively controlling the release of a drug from **depot** capsules by weak elec. fields was investigated. A model dosage form was developed, in which elec. energy is generated by a chem. reaction. The current curves obtained show that the current flow in the region of 10-20 .mu.A remains const. over several hours. Expts. on the release of the basic drug diphenhydramine-HCl demonstrated that under the influence of an elec. field, the release of the drug is substantially accelerated. Comparative investigations were carried out with capsules with an external voltage supply.

L6 ANSWER 29 OF 57 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:185817 CAPLUS
DOCUMENT NUMBER: 112:185817
TITLE: Potentiating an immune response by microencapsulation
INVENTOR(S): Tice, Thomas T.; Eldridge, John H.; Gilley, Richard M.; Stass, Jay K.
PATENT ASSIGNEE(S): UAB Research Foundation, USA; Southern Research Institute
SOURCE: Eur. Pat. Appl., 37 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
EP 333523	A2	19890920	EP 1989-302746	19890320	<--
EP 333523	A3	19900131			
EP 333523	B1	19960717			
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE					
US 5075109	A	19911224	US 1988-169973	19880318	<--
IL 89602	A1	19930708	IL 1989-89602	19890314	<--
WO 8908449	A1	19890921	WO 1989-US1083	19890316	<--
W: AU, DK, JP, KR, SU					
AU 8933433	A1	19891005	AU 1989-33433	19890316	<--
AU 633483	B2	19930204			
JP 03503892	T2	19910829	JP 1989-503679	19890316	<--
JP 2521827	B2	19960807			
IN 169330	A	19910928	IN 1989-MA205	19890316	<--
RU 2127118	C1	19990310	RU 1989-4831769	19890316	<--
CN 1043442	A	19900704	CN 1989-103098	19890318	<--
CN 1070697	B	20010912			
ZA 8902103	A	19900131	ZA 1989-2103	19890320	<--
EP 706792	A1	19960417	EP 1995-112851	19890320	<--
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE					
AT 140386	E	19960815	AT 1989-302746	19890320	<--
ES 2088890	T3	19961001	ES 1989-302746	19890320	<--
EP 1181929	A2	20020227	EP 2001-128930	19890320	
EP 1181929	A3	20030423			
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE					
KR 126823	B1	19980401	KR 1989-72165	19891118	<--
DK 9002224	A	19901116	DK 1990-2224	19900917	<--
US 5811128	A	19980922	US 1993-116484	19930907	<--
US 6024983	A	20000215	US 1993-116802	19930907	
US 5814344	A	19980929	US 1995-469218	19950606	<--
US 5820883	A	19981013	US 1995-468064	19950606	<--
US 5853763	A	19981229	US 1995-467314	19950606	<--
US 5942252	A	19990824	US 1995-469463	19950606	<--
CN 1308937	A	20010822	CN 2000-133019	20001021	

PRIORITY APPLN. INFO.:

US 1988-169973	A	19880318
US 1986-923159	B2	19861024
US 1989-325193	B2	19890316
WO 1989-US1083	A	19890316
EP 1989-302746	A3	19890320
EP 1995-112851	A3	19890320
US 1990-629138	B1	19901218
US 1993-116484	A1	19930907

AB Biocompatible microcapsules are used to administer bioactive agents such as immune modulators to achieve a pulsatile response as well as mucosal and systemic immunity. Absorption of 1- to 10-.mu.m microspheres by Peyer's Patches of the gut-assocd. lymphoid tissues following oral administration was tabulated for the following (microcapsule material,

biodegradability, and absorption given): polystyrene, no, very good; poly(Me **methacrylate**), no, very good; poly(hydroxybutyrate), yes, very good; poly(DL-lactide) (I), yes, good; poly(L-lactide), yes, good; poly(DL-lactide-co-glycolide), yes, good; cellulose acetate H phthalate, no, none; cellular triacetate, no, none; Et cellulose, no, none. An example was given showing that the immunopotentiation expressed when antigen is administered in I microspheres is not a function of the ability of the microspheres to intrinsically activate the immune system; rather, data are consistent with either a **depot** effect, targeted delivery of the antigen to antigen-representing accessory cells, or a combination of these 2 mechanisms.

L6 ANSWER 21 OF 57 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1996:470880 CAPLUS
DOCUMENT NUMBER: 125:151045
TITLE: Control of healing with photopolymerizable biodegradable **hydrogels**
AUTHOR(S): Hubbell, Jeffrey A.; West, Jennifer L.; Chowdhury, Sanghamitra M.
CORPORATE SOURCE: Division Chemistry and Chemical Engineering, California Institute Technology, Pasadena, CA, 91125, USA
SOURCE: Advanced Biomaterials in Biomedical Engineering and Drug Delivery Systems, [Iketani Conference on Biomedical Polymers], 5th, Kagoshima, Japan, Apr. 18-22, 1995 (**1996**), Meeting Date 1995, 179-182. Editor(s): Ogata, Naoya. Springer: Tokyo, Japan.
CODEN: 63CXA6
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Post-surgical wound healing has been modified by the use of biodegradable **hydrogel** barriers to block cell adhesion to tissue surfaces, e.g. to the mesothelium in abdomino-pelvic surgery or to the subendothelium in angioplasty. These materials were formed in situ by photopolymn. of an aq. precursor to obtain barriers that were conformal and adherent to the tissue. The precursor was comprised of a central chain of polyethylene glycol, with peripheral blocks of lactic acid oligomer, and with acrylate termini, the polyethylene glycol chain providing water soly. and biocompatibility, the lactic acid oligomer providing water lability, and the acrylate termini providing polymerizability to form a crosslinked **hydrogel**. Using these materials, it was possible to dramatically improve abdominal healing with less postoperative adhesions in rats and arterial healing with no thrombosis and less intimal thickening in rats. The **hydrogel** barriers were also employed as controlled release **depots** for protein drugs, the proteins being contained by entanglement. It was possible to further reduce postoperative abdominal adhesion formation in rats by releasing tissue plasminogen activator or urokinase plasminogen activator from the tissue-adherent barrier.

L6 ANSWER 19 OF 57 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 3

ACCESSION NUMBER: 1996:370025 BIOSIS
DOCUMENT NUMBER: PREV199699092381
TITLE: **Hydrogel** systems for barriers and local drug delivery in the control of wound healing.
AUTHOR(S): Hubbell, Jeffrey A.
CORPORATE SOURCE: Calif. Inst. Technol. Div. Chem., Chemical Eng., Mail Code 210-41, Pasadena, CA 91125, USA
SOURCE: Journal of Controlled Release, (1996) Vol. 39, No. 2-3, pp. 305-313.
CODEN: JCREEC. ISSN: 0168-3659.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 14 Aug 1996
Last Updated on STN: 15 Aug 1996

AB Many wound healing outcomes are determined by local cell-tissue interactions. The use of tissue-adherent **hydrogels** as barriers to prevent cell attachment and migration and as local release **depots** for macromolecular drugs in controlling healing is reviewed and discussed. Terminally diacrylated ABA block copolymers of lactic acid oligomers (A) and polyethylene glycol (B) have been used to form barriers directly upon tissue surfaces by photopolymerization of aqueous precursor solutions. Bulk photoinitiation has been performed to result in macroscopic gels, and interfacial photoinitiation has been used to form gels with thickness on the order of single cell diameters. These materials have been explored to reduce postoperative adhesions and to block post-balloon angioplasty thrombosis and reduce thickening of the arterial intima. Proteins have been released in vitro and in vivo, and locally released urokinase and tissue plasminogen activator have been demonstrated to further reduce postoperative adhesions relative to the gel barrier alone.

L6 ANSWER 7 OF 57 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:147231 CAPLUS
DOCUMENT NUMBER: 128:208959
TITLE: Process for producing bone cement containing active substances
INVENTOR(S): Nies, Berthold
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany; Nies, Berthold
SOURCE: PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
WO 9807456	A1	19980226	WO 1997-EP4434	19970813	<--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
DE 19641775	A1	19980226	DE 1996-19641775	19960822	<--
AU 9740155	A1	19980306	AU 1997-40155	19970813	<--
EP 920341	A1	19990609	EP 1997-937583	19970813	<--
EP 920341	B1	20030312			
R: AT, CH, DE, ES, FR, GB, IT, LI, SI, LT, LV					
JP 2001503290	T2	20010313	JP 1998-510370	19970813	
AT 234124	E	20030315	AT 1997-937583	19970813	
ZA 9707524	A	19980219	ZA 1997-7524	19970821	<--
US 6160033	A	20001212	US 1999-242445	19990217	

PRIORITY APPLN. INFO.: DE 1996-19641775 A 19960822
WO 1997-EP4434 W 19970813

AB A bone cement, bone substitute, or implantable **depot** of a pharmacol. substance is composed of a solid component [e.g. poly(meth)acrylate particles] and a liq. component [e.g. (meth)acrylate ester monomer], where the liq. component is dissolved in an org. solvent selected to enhance the release of the active substance from the cement, and this soln. is mixed with the solid component. The proportion of the org. solvent does not exceed 50 wt.% of the liq. component. Thus, a bone cement powder comprising 40 g Osteopal [contg. poly(Me **methacrylate**), chlorophyll, (BzO)2, and ZrO2] and 2 g powd. vancomycin was mixed with 20 mL Me **methacrylate** mixed with 0, 0.2, 1.0, or 4 mL propanediol. After the cements hardened, release of vancomycin in standardized in vitro tests was 47.06, 74.17, 233.61, and 238.63 .mu.g/mL on the 1st day, resp.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1993:73116 CAPLUS
DOCUMENT NUMBER: 118:73116
TITLE: Peptide inhibitors for angiotensin I-converting enzyme from thermolysin digest of dried bonito
AUTHOR(S): Yokoyama, Keiichi; Chiba, Hideo; Yoshikawa, Masaaki
CORPORATE SOURCE: Nippon Synthetic Chem. Ind. Co., Ltd., Osaka, 567, Japan
SOURCE: Bioscience, Biotechnology, and Biochemistry (1992), 56(10), 1541-5
CODEN: BBBIEJ; ISSN: 0916-8451
DOCUMENT TYPE: Journal
LANGUAGE: English

=> d hitseq 2

L18 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN
IT **143452-29-3**
RL: BIOL (Biological study)
(angiotensin I-converting enzyme inhibition by, as thermolysin digest of dried bonito, structure in relation to)
RN 143452-29-3 CAPLUS
CN Glycine, L-isoleucyl-L-valylglycyl-L-arginyl-L-prolyl-L-arginyl-L-histidyl-L-glutaminyl- (9CI) (CA INDEX NAME)

SEQ 1 IVGRPRHQG

L13 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS on STN
RN **51005-14-2** REGISTRY
CN Actin (rabbit slow skeletal muscle reduced) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Actin (ox skeletal muscle reduced)
FS PROTEIN SEQUENCE
SQL 375
NTE modified

type	------ location ------		description
terminal mod.	Asp-1	-	N-acetyl

```
SEQ      1 DEDETTALVC DNGSGLVKAG FAGDDAPRAV FPSIVGRPRH QGVMVGMGQK
                                                 =====
        51 DSYVGDEAQS KRGILTLKYP IEHGIITNWD DMEKIWHHTF YNELRVAPEE
       101 HPTLLTEAPL NPKANREKMT QIMFETFNVP AMYVAIQAVL SLYASGRTTG
       151 IVLDSGDGVT HNVPIYEGYA LPHAIMRLDL AGRDLTDYLM KILTERGYSI
       201 VTTAEREIVR DIKEKLCYVA LDFENEMATA ASSSSLEKSY ELPDGQVITI
       251 GNERFRCPET LFQPSFIGME SAGIHETTYN SIMKCDIDIR KDLYANNVMS
       301 GGTTMYPGIA DRMQKEITAL APSTMKIKII APPERKYSVW IGGSILASLS
       351 TFQQMWITKQ EYDEAGPSIV HRYCF
```

HITS AT: 36-40
MF Unspecified
CI MAN
LC STN Files: CA, CAPLUS, CHEMCATS
3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L12 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1973:543671 CAPLUS
DOCUMENT NUMBER: 79:143671
TITLE: Complete amino-acid sequence of **actin** of rabbit skeletal muscle
AUTHOR(S): Elzinga, Marshall; Collins, John H.; Kuehl, W. Michael; Adelstein, Robert S.
CORPORATE SOURCE: Dep. Muscle Res., Biomed. Res. Inst., Boston, MA, USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (**1973**), 70(9), 2687-91
CODEN: PNASA6; ISSN: 0027-8424
DOCUMENT TYPE: Journal
LANGUAGE: English
IT **51005-14-2**
RL: PRP (Properties)
(amino acid sequence of)
RN 51005-14-2 CAPLUS
CN Actin (rabbit slow skeletal muscle reduced) (9CI) (CA INDEX NAME)

NTE modified

SEQ
```
      1 DEDETTALVC DNGSGLVKAG FAGDDAPRAV FPSIVGRPRH QGVMVGMGQK
     51 DSYVGDEAQS KRGILTLKYP IEHGIITNWD DMEKIWHHTF YNELRVAPEE
    101 HPTLLTEAPL NPKANREKMT QIMFETFNVP AMYVAIQAVL SLYASGRTTG
    151 IVLDSGDGVT HNVPIYEGYA LPHAIMRLDL AGRDLTDYLM KILTERGYSI
    201 VTTAEREIVR DIKEKLCYVA LDFENEMATA ASSSSLEKSY ELPDGQVITI
    251 GNERFRCPET LFQPSFIGME SAGIHETTYN SIMKCDIDIR KDLYANNVMS
    301 GGTTMYPGIA DRMQKEITAL APSTMKIKII APPERKYSVW IGGSILASLS
    351 TFQQMWITKQ EYDEAGPSIV HRYCF
```

L18 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1993:73116 CAPLUS
DOCUMENT NUMBER: 118:73116
TITLE: Peptide inhibitors for angiotensin I-converting enzyme from thermolysin digest of dried bonito
AUTHOR(S): Yokoyama, Keiichi; Chiba, Hideo; Yoshikawa, Masaaki
CORPORATE SOURCE: Nippon Synthetic Chem. Ind. Co., Ltd., Osaka, 567, Japan
SOURCE: Bioscience, Biotechnology, and Biochemistry (1992), 56(10), 1541-5
CODEN: BBBIEJ; ISSN: 0916-8451
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Dried bonito (Katsuobusi), a Japanese traditional seasoning made of bonito muscle was hydrolyzed by various proteases and the inhibitory activity of the hydrolyzates for angiotensin I-converting enzyme (ACE) [EC 3.4.15.1] was measured. Among the digests, thermolysin digest showed the most potent inhibitory activity. Eight inhibitory peptides were isolated from the digest using HPLC. The amino acid sequences of inhibitory peptides were Ile-Lys-Pro-Leu-Asn-Tyr, Ile-Val-Gly-Arg-Pro-Arg-His-Gln-Gly, Ile-Trp-His-His-Thr, Ala-Leu-Pro-His-Ala, Phe-Gln-Pro, Leu-Lys-Pro-Asn-Met, Ile-Tyr, and Asp-Tyr-Gly-Leu-Tyr-Pro. By searching for the sequence homol. in many proteins, four of them were found in the primary structure of **actin**. Asp-Met-Ile-Pro-Ala-Gln-Lys was obtained from the boiling water ext. of dried bonito and this peptide was found in the primary structure of creatine kinase. Fragments of these peptides were prepd. by further enzymic digestion or chem. synthesis and their ACE-inhibitory activities were measured. Among them, Ile-Lys-Pro, Ile-Trp, Leu-Lys-Pro, and Leu-Tyr-Pro had higher inhibitory activity than their parental peptides. Ile-Lys-Pro suppressed the hypertensive activity of angiotensin I.

IT 13589-06-5 38579-21-4 137689-41-9 137689-47-5 139681-53-1
143072-10-0 143072-11-1 **143452-29-3** 143478-34-6
143936-45-2 143936-46-3 143936-51-0 145202-65-9
RL: BIOL (Biological study)
(angiotensin I-converting enzyme inhibition by, as thermolysin digest of dried bonito, structure in relation to)

L15 22 L3 AND SQL<20

=> d sqide 1-22

L15 ANSWER 1 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 535944-21-9 REGISTRY
CN L-Histidine, L-arginyl-L-alanyl-L-valyl-L-phenylalanyl-L-prolyl-L-seryl-L-isoleucyl-L-valylglycyl-L-arginyl-L-prolyl-L-arginyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 1: PN: WO03045993 SEQID: 1 claimed protein
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL **13**

PATENT ANNOTATIONS (PNTE):

Sequence Source	Patent Reference
Not Given	WO2003045993 claimed SEQID 1

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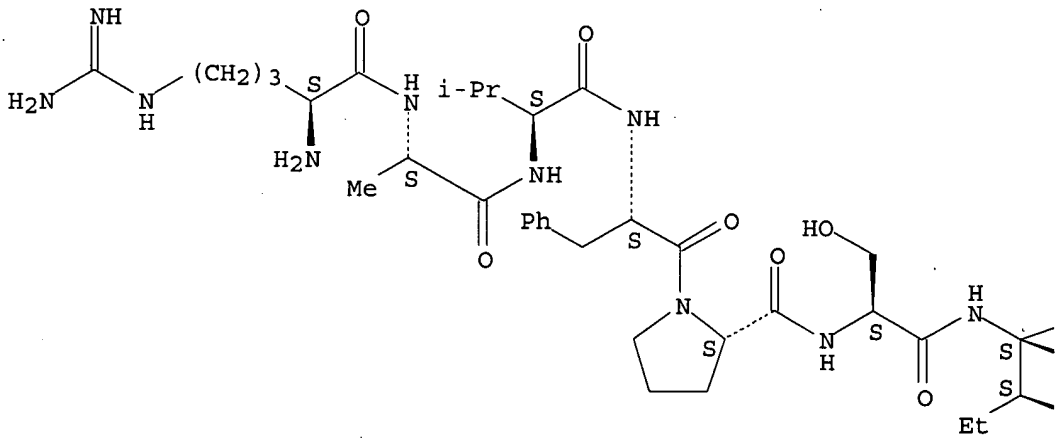
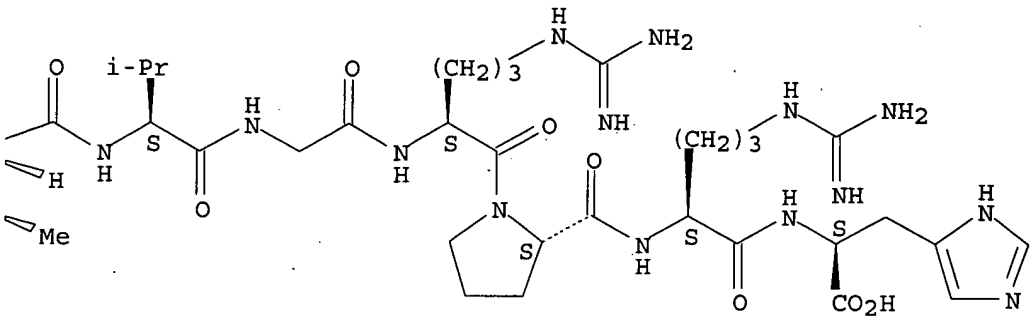
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A





PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L15 ANSWER 2 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 486998-36-1 REGISTRY
CN L-Methionine, L-prolyl-L-seryl-L-isoleucyl-L-valylglycyl-L-arginyl-L-prolyl-L-arginyl-L-histidyl-L-glutaminylglycyl-L-valyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 8: PN: WO03006492 SEQID: 8 claimed protein
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 13

PATENT ANNOTATIONS (PNTE):

Sequence Source	Patent Reference
Not Given	WO2003006492 claimed SEQID 8

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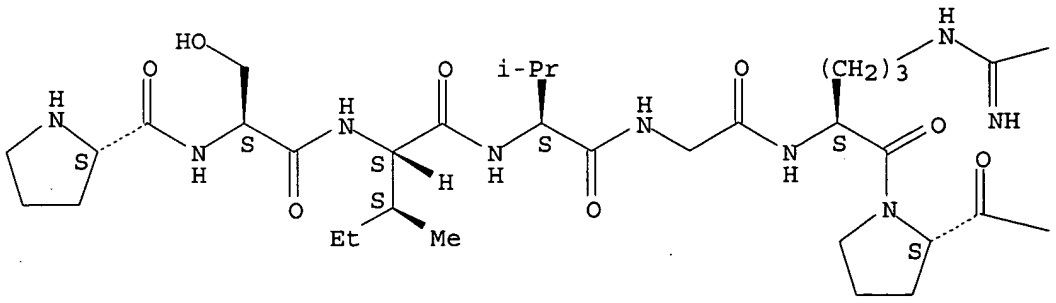
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



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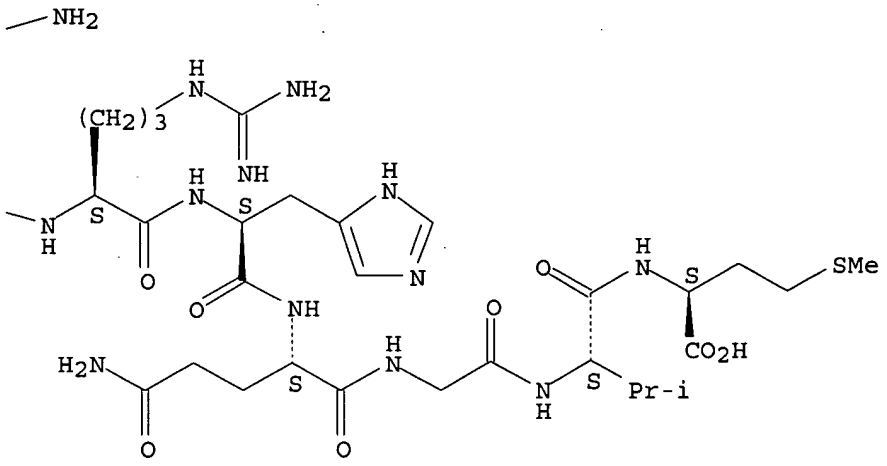

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L15 ANSWER 3 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 482030-96-6 REGISTRY
CN GenBank AAK97369 (9CI) (CA INDEX NAME)
OTHER NAMES:
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SR GenBank

L15 ANSWER 4 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-76-0 REGISTRY
CN GenBank AAF98687 (9CI) (CA INDEX NAME)
OTHER NAMES:
CN GenBank AAF98687 (Translated from: GenBank AF140834)

FS PROTEIN SEQUENCE
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SEQ 1 SIVGRPRHQ
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HITS AT: 4-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF Unspecified
CI MAN
SR GenBank

L15 ANSWER 5 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-75-9 REGISTRY
CN GenBank AAF98686 (9CI) (CA INDEX NAME)
OTHER NAMES:
CN GenBank AAF98686 (Translated from: GenBank AF140833)
FS PROTEIN SEQUENCE
SQL 8

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HITS AT: 3-7
MF Unspecified
CI MAN
SR GenBank

L15 ANSWER 6 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-74-8 REGISTRY
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FS PROTEIN SEQUENCE
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HITS AT: 4-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF Unspecified
CI MAN
SR GenBank

L15 ANSWER 7 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-73-7 REGISTRY
CN GenBank AAF98684 (9CI) (CA INDEX NAME)
OTHER NAMES:
CN GenBank AAF98684 (Translated from: GenBank AF140831)
FS PROTEIN SEQUENCE
SQL 9

SEQ 1 SIVGRPRHQ
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HITS AT: 4-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF Unspecified
CI MAN
SR GenBank

L15 ANSWER 8 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-72-6 REGISTRY
CN GenBank AAF98683 (9CI) (CA INDEX NAME)

OTHER NAMES:
CN GenBank AAF98683 (Translated from: GenBank AF140830)
FS PROTEIN SEQUENCE
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SEQ 1 SIVGRPRHQ
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HITS AT: 4-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF Unspecified
CI MAN
SR GenBank

L15 ANSWER 9 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-71-5 REGISTRY
CN GenBank AAF98682 (9CI) (CA INDEX NAME)
OTHER NAMES:
CN GenBank AAF98682 (Translated from: GenBank AF140829)
FS PROTEIN SEQUENCE
SQL 9

SEQ 1 SIVGRPRHQ
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HITS AT: 4-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF Unspecified
CI MAN
SR GenBank

L15 ANSWER 10 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-70-4 REGISTRY
CN GenBank AAF98681 (9CI) (CA INDEX NAME)
OTHER NAMES:
CN GenBank AAF98681 (Translated from: GenBank AF140828)
FS PROTEIN SEQUENCE
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SEQ 1 SIVGRPRHQ
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HITS AT: 4-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF Unspecified
CI MAN
SR GenBank

L15 ANSWER 11 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-69-1 REGISTRY
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OTHER NAMES:
CN GenBank AAF98680 (Translated from: GenBank AF140827)
FS PROTEIN SEQUENCE
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SEQ 1 SIVGRPRHQ
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HITS AT: 4-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF Unspecified
CI MAN
SR GenBank

L15 ANSWER 12 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-68-0 REGISTRY
CN GenBank AAF98679 (9CI) (CA INDEX NAME)
OTHER NAMES:
CN GenBank AAF98679 (Translated from: GenBank AF140826)
FS PROTEIN SEQUENCE
SQL 9

SEQ 1 SIVGRPRHQ
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HITS AT: 4-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF Unspecified
CI MAN
SR GenBank

L15 ANSWER 13 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-67-9 REGISTRY
CN GenBank AAF98678 (9CI) (CA INDEX NAME)
OTHER NAMES:
CN GenBank AAF98678 (Translated from: GenBank AF140825)
FS PROTEIN SEQUENCE
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SEQ 1 SIVGRPRHQ
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HITS AT: 4-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF Unspecified
CI MAN
SR GenBank

L15 ANSWER 14 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-66-8 REGISTRY
CN GenBank AAF98677 (9CI) (CA INDEX NAME)
OTHER NAMES:
CN GenBank AAF98677 (Translated from: GenBank AF140824)
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RELATED SEQUENCES AVAILABLE WITH SEQLINK
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SR GenBank

L15 ANSWER 15 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-65-7 REGISTRY
CN GenBank AAF98676 (9CI) (CA INDEX NAME)
OTHER NAMES:
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FS PROTEIN SEQUENCE
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SEQ 1 SIVGRPRHQ
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HITS AT: 4-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF Unspecified
CI MAN
SR GenBank

L15 ANSWER 16 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 481507-64-6 REGISTRY
CN GenBank AAF98675 (9CI) (CA INDEX NAME)
OTHER NAMES:
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RELATED SEQUENCES AVAILABLE WITH SEQLINK
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SR GenBank

L15 ANSWER 17 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
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FS PROTEIN SEQUENCE
SQL **8**

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MF Unspecified
CI MAN
SR GenBank

L15 ANSWER 18 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 297737-47-4 REGISTRY
CN L-Leucine, L-glutaminyl-L-seryl-L-tyrosyl-L-.alpha.-aspartyl-L-arginylglycyl-L-arginyl-L-prolyl-L-arginyl-L-histidyl-L-alanyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 139: PN: WO0056772 SEQID: 215 unclaimed sequence
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL **12**

PATENT ANNOTATIONS (PNTE):

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Not Given	WO2000056772 unclaimed SEQID 215

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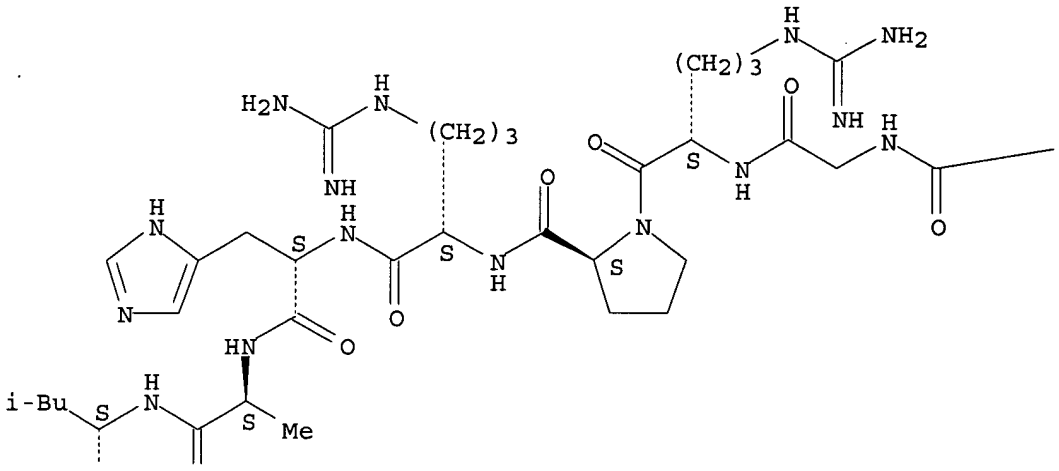
MF C61 H98 N24 O18
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



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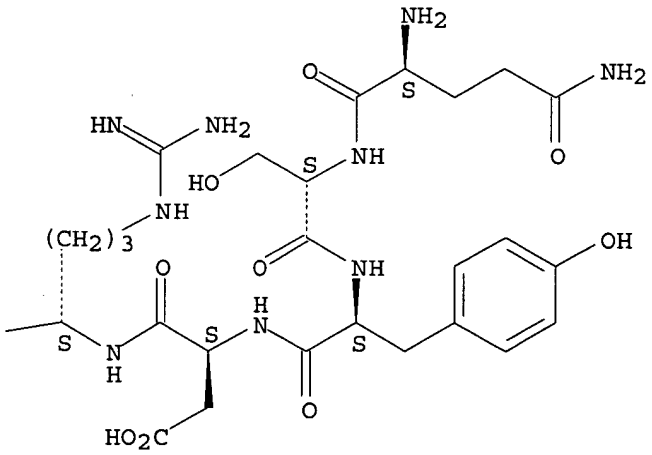

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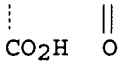

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L15 ANSWER 19 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 216434-13-8 REGISTRY
CN L-Histidine, glycyl-L-arginyl-L-prolyl-L-arginyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH

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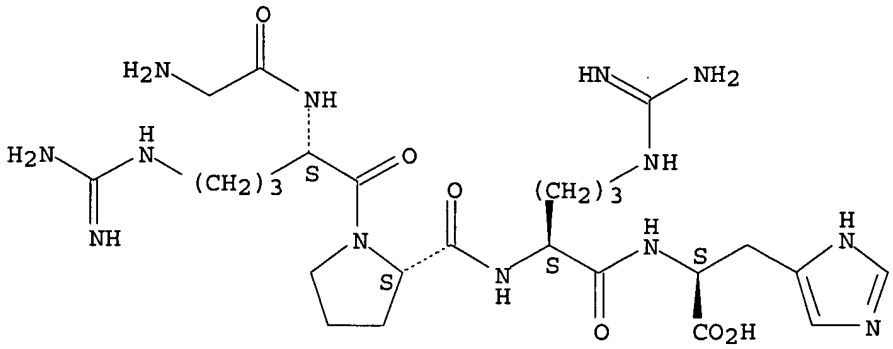
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L15 ANSWER 20 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
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CN Glycine, N-[N2-[N-[N2-[1-(N2-glycyl-L-arginyl)-L-prolyl]-L-arginyl]-L-histidyl]-L-glutaminyl]- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
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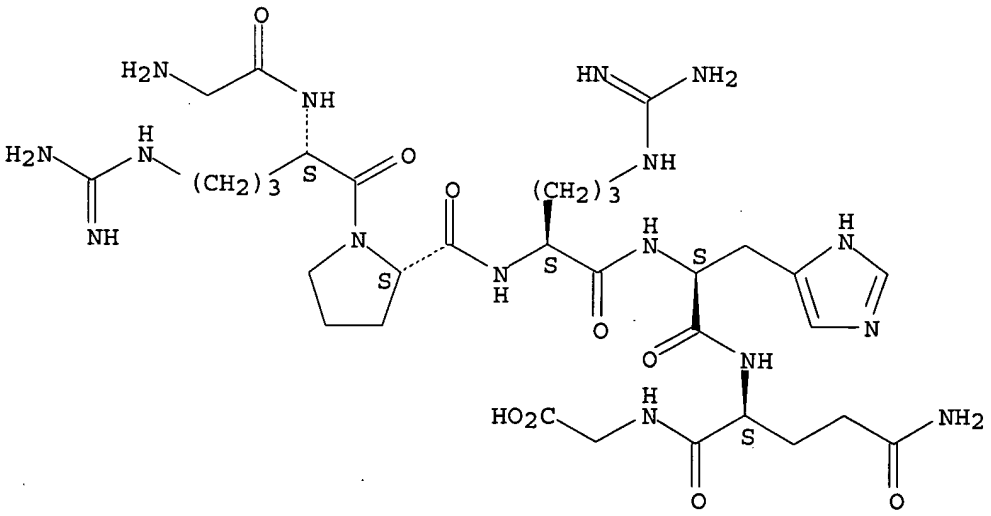
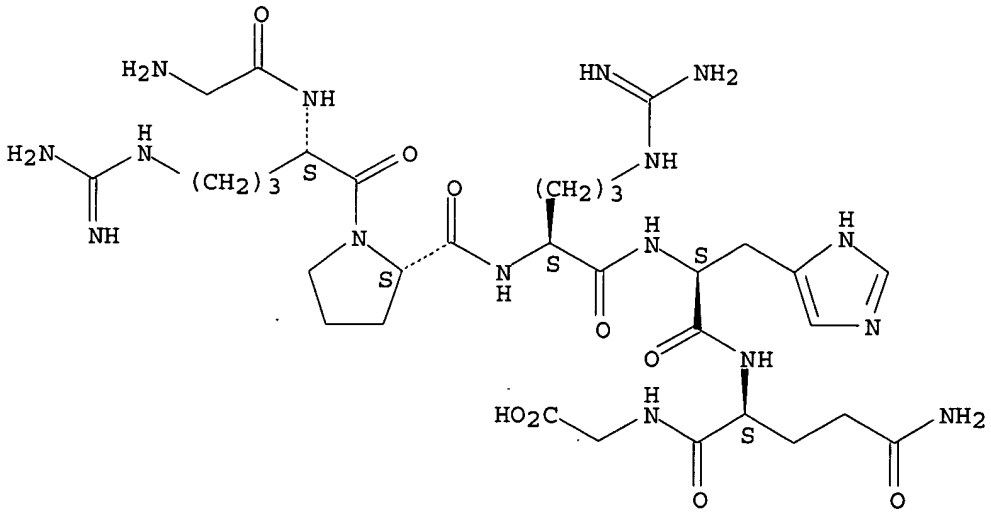
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.





1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L15 ANSWER 21 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 143452-30-6 REGISTRY
CN Glycine, N-[N2-[N-[N2-[1-[N2-(N-L-valylglycyl)-L-arginyl]-L-prolyl]-L-arginyl]-L-histidyl]-L-glutaminyl]- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 8

SEQ 1 VGRPRHQG
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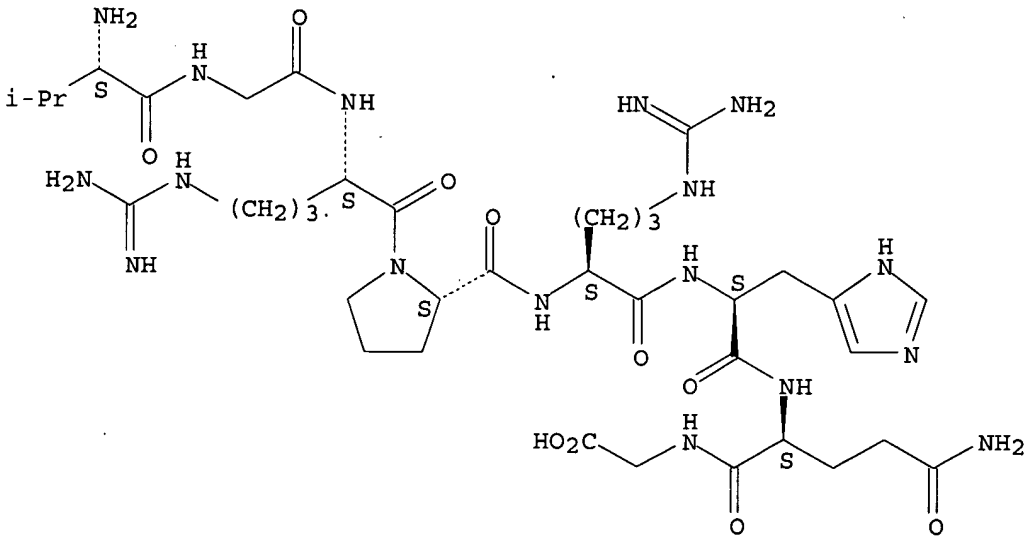
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L15 ANSWER 22 OF 22 REGISTRY COPYRIGHT 2003 ACS on STN
RN 143452-29-3 REGISTRY
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CN Glycine, N-[N2-[N-[N2-[1-[N2-[N-(N-L-isoleucyl-L-valyl)glycyl]-L-arginyl]-L-prolyl]-L-arginyl]-L-histidyl]-L-glutaminyl]-
OTHER NAMES:
CN 13: PN: EP1092724 SEQID: 14 claimed protein
CN 4: PN: JP2000264845 PAGE: 2 claimed sequence
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 9

PATENT ANNOTATIONS (PNTE):

Sequence Source	Patent Reference
Not Given	EP1092724 claimed SEQID 14
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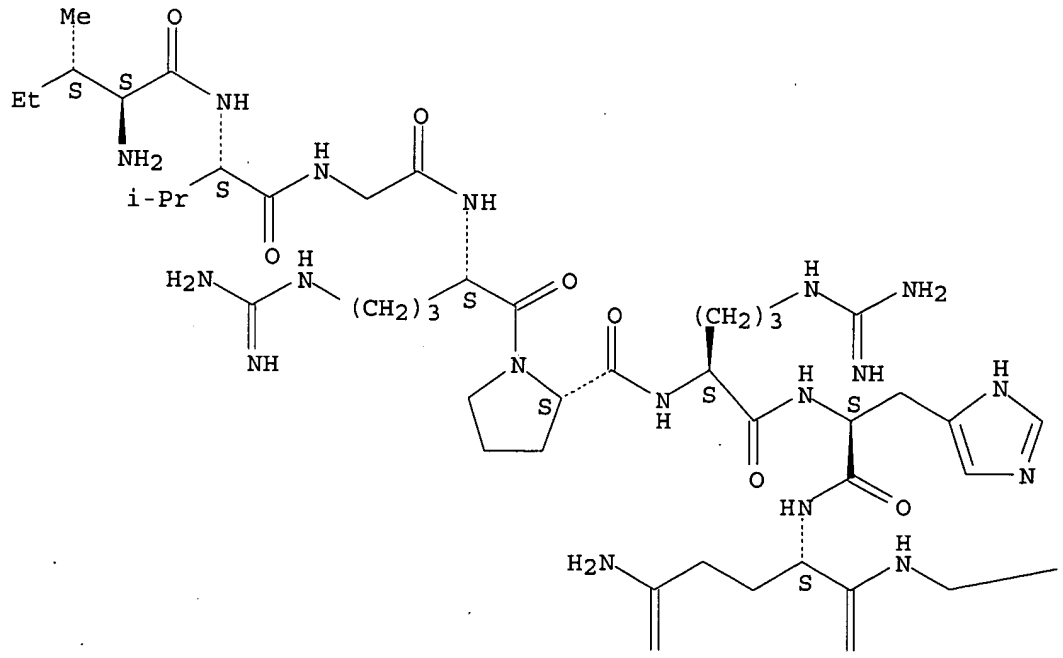
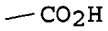
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A





5 REFERENCES IN FILE CA (1907 TO DATE)
5 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L24 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:165027 CAPLUS
DOCUMENT NUMBER: 136:221773
TITLE: Transplant encapsulation in a gelatin-based hydrogel matrix to obscure immune recognition
INVENTOR(S): Usala, Anton-lewis
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 10 pp., Cont.-in-part of U. S. 6,231,881.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
US 6352707	B1	20020305	US 1999-346212	19990701	
US 5834005	A	19981110	US 1995-568482	19951207	<--
US 6231881	B1	20010515	US 1998-113437	19980710	
CA 2337047	AA	20000120	CA 1999-2337047	19990709	
WO 2000002600	A1	20000120	WO 1999-US15465	19990709	

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9949773	A1	20000201	AU 1999-49773	19990709	
AU 756049	B2	20030102			
EP 1096962	A1	20010509	EP 1999-933792	19990709	

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.:		
US 1992-841973	B2	19920224
US 1994-300429	B2	19940902
US 1995-568482	A1	19951207
US 1998-113437	A2	19980710
US 1999-346212	A	19990701
WO 1999-US15465	W	19990709

AB Immune recognition of a transplant such as tissue implanted in a host mammal is obscured by encapsulating the transplant in a hydrogel matrix contg. gelatin, dextran, at least one nitric oxide inhibitor and polar amino acids. The polar amino acids increase rigidity of the matrix and allow direct injection of the encapsulated transplant into a mammal without further immunosuppression. Preferably, the nitric oxide inhibitor is a combination of L-cysteine and an L-arginine analog such as aminoguanidine, and the polar amino acids are a combination of L-glutamic acid, L-lysine and L-arginine. The matrix may also contain a superoxide inhibitor such as EDTA. Implanting can be carried out by applying a buffer medium contg. a nitric oxide inhibitor to an implant site, implanting the encapsulated transplant, and applying to the implant site a buffer medium which may contain a nitric oxide inhibitor. The buffer medium may also contain a superoxide inhibitor. The buffer medium applied after implanting, may be applied once a day for about one to about seven days. The matrix binds to cell surface proteins of encapsulated transplant tissue to obscure recognition of the tissue by antibodies produced by a recipient of the tissue. A matrix for transplant encapsulation was prepd. by mixing 835 mL of Medium 199, 20 mL albumin, 63.28 .mu.L L-cysteine, 1 mL L-glutamine, and 200 .mu.L aminoguanidine and stirring in .gamma. irradiated dry raw materials, 120 g denatured collagen, 50 g dextran, and 0.1 g of intact collagen, into soln. After

stirring, 8 mL of EDTA, 5 mL L-glutamic acid, 5 mL L-lysine acetate, and 5 mL L-arginine HCl were added. NaOH (10%) was used to adjust the pH of the matrix soln. to 7.40.+-.0.05. A porcine pancreatic tissue/matrix transplant. was injected i.m. to pancreatectomized diabetic dog. The amt. of insulin required to maintain the target glucose value (180 mg/dL or less) decreased after the injection of encapsulated transplant and the av. glucose level of the dog decreased.

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:351407 CAPLUS
DOCUMENT NUMBER: 132:352851
TITLE: Injection implant comprising porous microparticles
INVENTOR(S): Bisson, Jean-Louis
PATENT ASSIGNEE(S): Procytech, Fr.
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000029042	A1	20000525	WO 1999-FR2824	19991118
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FR 2785811	A1	20000519	FR 1998-14679	19981118
FR 2785811	B1	20021206		
EP 1131111	A1	20010912	EP 1999-972114	19991118
EP 1131111	B1	20030326		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AT 235274	E	20030415	AT 1999-972114	19991118

PRIORITY APPLN. INFO.: FR 1998-14679 A 19981118
WO 1999-FR2824 W 19991118

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 9 OF 112 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:402279 CAPLUS
DOCUMENT NUMBER: 129:72250
TITLE: Improved hydrogel compositions for implant
INVENTOR(S): Borland, Kermit M.; Zhou, Tao; Nelson, Gordon P.; Atala, Anthony
PATENT ASSIGNEE(S): Reprogenesis, Inc., USA; Children's Medical Center Corp.
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
WO 9825575	A2	19980618	WO 1997-US22860	19971210	<--
WO 9825575	A3	20010412			
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
AU 9856015	A1	19980703	AU 1998-56015	19971210	<--

PRIORITY APPLN. INFO.: US 1996-762733 A 19961210
WO 1997-US22860 W 19971210

AB This invention provides compns. for use in implanting cells into an animal comprising cells (which may be dissocd. cells and/or cell aggregates); a biodegradable, biocompatible polymer which forms a hydrogel upon crosslinking by multivalent ions; a sol. salt of a multivalent ion; and a sparingly sol. salt of a multivalent ion, these components being combined into a mixt. which forms a partially hardened, injectable hydrogel in which the cells are uniformly suspended, the consistency of the mixt. being suitable for implanting the partially hardened hydrogel mixt. into the animal, where the implanted, partially hardened hydrogel forms in situ a fully hardened hydrogel contg. the cells. Preferably, the mixt. also contains a biocompatible sequestrant which competes with the biocompatible polymer for binding the multivalent crosslinking ion. The invention also provides methods for implanting cells in an animal using the compn. An injectable alginate gel was prepd. contg. Na alginate (2 %) 2.6 mL, M-199 medium 0.5 mL, CaSO4 0.045 g, and CaCl2 (18 mg/mL) 0.25 mL.

L13 ANSWER 36 OF 112 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:38212 CAPLUS
DOCUMENT NUMBER: 120:38212
TITLE: Biocompatible, therapeutic, implantable device
INVENTOR(S): Ward, Robert S.; Chater, Veronica Jean; Kuhn, Robert
PATENT ASSIGNEE(S): Somatix Therapy Corp., USA; Polymer Technology Group, Inc.
SOURCE: PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9321902	A1	19931111	WO 1993-US3850	19930423 <--
W: AT, AU, BB, BG, BR, CA, CH, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, PL, RO, RU, SD, SE, SK, UA, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9341149	A1	19931129	AU 1993-41149	19930423 <--

PRIORITY APPLN. INFO.: US 1992-874342 19920424
WO 1993-US3850 19930423

AB This invention relates to an implantable, biocompatible device possessing at least one cavity within which live cells can be introduced and maintained such that when the device is implanted into a subject, the cells are in continuous interaction with the subject's body fluids to provide a therapeutic or prophylactic effect to the subject that requires a direct interactive contact with the body fluids, wherein at least one portion of the outside thereof comprises a nonporous, semipermeable, biocompatible film formed from a copolymer comprising 5-45% of hard segment and 55-95% of soft segment, substantially impermeable to cells and particulate matter. Multiple embodiments of the device of this invention are provided.

L13 ANSWER 27 OF 112 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:491919 CAPLUS
DOCUMENT NUMBER: 121:91919
TITLE: Microporous macrocapsules as implantation devices for cell therapy
INVENTOR(S): Gentile, Frank T.; Tresco, Patrick A.; Hazlett, Tyrone; Flanagan, Thomas; Doherty, Edward J.; Rein, David; Holland, Laura
PATENT ASSIGNEE(S): Brown University Research Foundation, USA
SOURCE: PCT Int. Appl., 46 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9410950	A1	19940526	WO 1993-US11232	19931116 <--
W: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5177803	A	19930105	US 1991-692493	19910429 <--
CA 2149420	AA	19940526	CA 1993-2149420	19931116 <--
AU 9456713	A1	19940608	AU 1994-56713	19931116 <--
AU 687371	B2	19980226		
EP 674497	A1	19951004	EP 1994-902302	19931116 <--
EP 674497	B1	20020724		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08503472	T2	19960416	JP 1994-512503	19931116 <--
HU 72986	A2	19960628	HU 1995-1426	19931116 <--
BR 9307455	A	19990601	BR 1993-7455	19931116 <--
AT 220883	E	20020815	AT 1994-902302	19931116
ES 2179839	T3	20030201	ES 1994-902302	19931116
FI 9502322	A	19950711	FI 1995-2322	19950512 <--
NO 9501914	A	19950515	NO 1995-1914	19950515 <--
US 6337088	B1	20020108	US 1995-465392	19950605
LV 10906	B	19960620	LV 1995-168	19950615 <--
US 5955095	A	19990921	US 1995-436281	19950814 <--
AU 9864883	A1	19980702	AU 1998-64883	19980512 <--
AU 700766	B2	19990114		

PRIORITY APPLN. INFO.:

US 1992-975354	A	19921116
WO 1992-US3327	A2	19920422
WO 1993-US11232	W	19931116
US 1995-436281	A1	19950814

AB Microporous macrocapsules are disclosed which are useful as implantation devices for cell therapy. The macrocapsule comprises living cells that secrete biol. substance that are therapeutically useful and that are released from the macrocapsule to the site of implantation. The capsules can have selected permeability characteristics based upon their particular usage and desired viral retentivity characteristics. Neuronal survival was demonstrated in rats for at least 4 wk after implantation of allogenic fetal brain tissue loaded into microporous polyethylene oxide fiber.

L15 ANSWER 9 OF 18 USPATFULL on STN

ACCESSION NUMBER: 2002:340047 USPATFULL

TITLE: Implant coating for control of tissue/implant interactions

INVENTOR(S): Moussy, Francis, Farmington, CT, United States
Kreutzer, Donald, Avon, CT, United States
Burgess, Diane, Storrs, CT, United States
Koberstein, Jeffrey, Mansfield, CT, United States
Papadimitrakopoulos, Fotios, Coventry, CT, United States
Huang, Samuel, Bloomfield, CT, United States

PATENT ASSIGNEE(S): The University of Connecticut, Storrs, CT, United States (U.S. corporation)

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 6497729	B1	20021224		
APPLICATION INFO.:	US 1999-443857		19991119	(9)	<--

	NUMBER	DATE	
PRIORITY INFORMATION:	US 1998-109289P	19981120	(60)

DOCUMENT TYPE: Utility

FILE SEGMENT: GRANTED

PRIMARY EXAMINER: Prebilic, Paul B.

LEGAL REPRESENTATIVE: Cantor Colburn LLP

NUMBER OF CLAIMS: 43

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 10 Drawing Figure(s); 5 Drawing Page(s)

LINE COUNT: 1408

L6 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:172619 CAPLUS
DOCUMENT NUMBER: 130:213677
TITLE: Injectable, biocompatible, hydrophilic gel, process for its preparation and application.
INVENTOR(S): Topalov, Iovtcho Boyanov; Nedkova, Margarita Stoyanova
PATENT ASSIGNEE(S): Pegas Ltd., Bulg.
SOURCE: PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9910021	A1	19990304	WO 1998-BG11	19980618
W: AL, AM, AU, BG, BR, BY, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP, KE, KP, KR, LR, LS, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TM, TR, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9880047	A1	19990316	AU 1998-80047	19980618

PRIORITY APPLN. INFO.: BG 1997-101856 19970826
BG 1998-102375 19980407
WO 1998-BG11 19980618
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 40 OF 112 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 93:299726 SCISEARCH
THE GENUINE ARTICLE: LA840
TITLE: SYNTHETIC-POLYMER MATRICES FOR NEURAL CELL TRANSPLANTATION
AUTHOR: WOERLY S (Reprint); ULBRICH K; CHYTRY V; SMETANA K; PETROVICKY P; RIHOVA B; MORASSUTTI D J
CORPORATE SOURCE: CZECHOSLOVAK ACAD SCI, INST MACROMOLEC CHEM, PRAGUE 6, CZECHOSLOVAKIA; CZECHOSLOVAK ACAD SCI, INST MICROBIOL, PRAGUE 6, CZECHOSLOVAKIA; CHARLES UNIV, FAC MED 1, DEPT ANAT, PRAGUE 2, CZECHOSLOVAKIA; UNIV OTTAWA, DEPT BIOL, OTTAWA K1N 6N5, ONTARIO, CANADA; UNIV OTTAWA, DEPT NEUROSURG, OTTAWA K1N 6N5, ONTARIO, CANADA
COUNTRY OF AUTHOR: CZECHOSLOVAKIA; CANADA
SOURCE: CELL TRANSPLANTATION, (**MAY/JUN 1993**) Vol. 2, No. 3, pp. 229-239.
ISSN: 0963-6897.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 37

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB This study proposes a strategy to promote the integration of a neural graft into the host brain tissue. It involves the attachment of donor cells to a polymeric matrix, and the **implantation** of this **cell**-polymer matrix. We have synthesized **hydrogels** based on N-(2-hydroxypropyl)-methacrylamide (HPMA) to produce highly porous matrices. As preliminary steps, we have examined: 1) The response of the brain tissue to the implantation of PHPMA/collagen hydrogels; 2) adhesion, growth, differentiation, and viability of embryonic neuronal cells, and embryonal carcinoma-derived neurons seeded onto PHPMA substrates containing hexosamine residues (glucosamine and N-acetylglucosamine), and after entrapment of cells within the hydrogels. Histological analysis seven wk after implantation showed the tolerance of PHPMA hydrogels, and the penetration of host cells into the pore structures. However, cellular ingrowth requires the presence of collagen, and is dependent upon porosity. In vitro data showed that PHPMA substrates supported neuronal cell attachment and neuritic growth, but the biocompatibility of the substrate was enhanced after incorporation of N-acetylglucosamine into the hydrogel. The data also showed the feasibility of entrapping cells into the polymer matrices, and that these ''cellular'' hydrogel matrices could be maintained in vitro with preservation of cell viability and differentiation. These findings suggest that PHPMA-based hydrogels can serve as carriers for neural transplant, and as a support to guide tissue ingrowth and organization.

L13 ANSWER 35 OF 112 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:72905 CAPLUS
DOCUMENT NUMBER: 120:72905
TITLE: Method using semipermeable biocompatible film for culturing viable cells and method of regulating the level of a compound in a body fluid
INVENTOR(S): Ward, Robert S.; Monahan, John; Kuhn, Robert
PATENT ASSIGNEE(S): Somatix Therapy Corp., USA; Polymer Technology Group, Inc.
SOURCE: PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
WO 9322427	A1	19931111	WO 1993-US3843	19930423	<--
W: AT, AU, BB, BG, BR, CA, CH, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, PL, RO, RU, SD, SE, SK, UA, VN					
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
AU 9341144	A1	19931129	AU 1993-41144	19930423	<--
EP 640126	A1	19950301	EP 1993-910761	19930423	<--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE					
JP 07505786	T2	19950629	JP 1993-519404	19930423	<--

PRIORITY APPLN. INFO.: US 1992-874338 19920424
WO 1993-US3843 19930423

AB A method of culturing live viable cells comprises culturing the cells under the conditions effective for cells to survive in the presence of a nonporous, semipermeable biocompatible film of predefined characteristics having a tensile strength of 350-10,000 psi, an ultimate elongation of 300-1500%, a water absorption such that the sum of the vol. fraction of absorbed water in the hydrophilic vol. fraction of the soft segment is 100-2,000% of the dried polymer vol. and 50-95% of the wet polymer vol. The film permeability can be changed to have different cut-off mol. wts. while being substantially impermeable to cells and particulate matter as well as high-mol.-wt. mols. A method of regulating the level of a compd. in a body fluid of the subject afflicted with an endogenous defect resulting in abnormal levels of the compd. in the body fluid, in the substantial absence of a detrimental immunol. reaction comprises: enclosing cells lacking the endogenous defect of the patient's cells in a biocompatible, implantable device, wherein at least one portion thereof comprises a non-porous, semi-permeable, biocompatible film substantially enclosing the cells, the film formed from a copolymer comprising about 5 to 45 wt% of at least one hard segment, and about 95 to 55 wt% of at least one soft segment comprising .gtoreq.1 hydrophilic, hydrophobic or amphipathic oligomer selected from the group consisting of aliph. polyols, aliph. and arom. polyamines and mixts. thereof; the film having a tensile strength greater than about 350 psi and up to about 10,000 psi, an ultimate elongation greater than about 300% and up to about 1,500% and a water absorption such that the sum of the vol. fraction of absorbed water and the hydrophilic vol. fraction of the soft segment exceeds about 100% and up to about 2,000% of the dry polymer vol. and exceeds about 50% and up to about 95% of the wet polymer vol., and the film being permeable to mols. of up to about 6000 to 600,000 mol. wt. and substantially impermeable to cells and particulate matter. The cell-contg. device is implanted into a site in the subject's body where the cells are in contact with the subject's body fluid, and the cells are allowed to grow at the implantation site, where they are in direct interactive contact with the compd. and act to regulate its level in the body fluid. Thus, porcine islets (in either RMPI media or RMPI media contg. Matrigel) were placed

into membrane tubes which were then implanted into normal mice. After 3 mo, live islet cells were shown to be present in the device, demonstrating that the xenografted cells were protected from the host immune system. The islet cell-contg. membrane device, when implanted in diabetic mice, was shown to ameliorate the diabetic state.

L2 ANSWER 1 OF 3 MEDLINE on STN
ACCESSION NUMBER: 2000289898 MEDLINE
DOCUMENT NUMBER: 20289898 PubMed ID: 10831052
TITLE: Prevalence and distribution of pig helminths in the Dongting Lake Region (Hunan Province) of the People's Republic of China.
AUTHOR: Boes J; Willingham A L 3rd; Fuhui S; Xuguang H; Eriksen L; Nansen P; Stewart T B
CORPORATE SOURCE: Danish Centre for Experimental Parasitology, Royal Veterinary and Agricultural University, Frederiksberg.. jbo@kvl.dk
SOURCE: JOURNAL OF HELMINTHOLOGY, (2000 Mar) 74 (1) 45-52. Journal code: 2985115R. ISSN: 0022-149X.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200006
ENTRY DATE: Entered STN: 20000622
Last Updated on STN: 20000622
Entered Medline: 20000614

AB The prevalence of helminths in pigs was investigated in five rural communities situated on the embankment of Dongting Lake in Zhiyang County, Hunan Province, People's Republic of China, in an area known to be endemic for Schistosoma japonicum. The helminth prevalences identified on the basis of faecal egg count analysis were: Oesophagostomum spp. (86.7%), Ascaris suum (36.7%), Metastrongylus spp. (25.8%), Strongyloides spp. (25.8%), Trichuris suis (15.8%), Globocephalus spp. (6.7%), Gnathostoma spp. (4.2%), Schistosoma japonicum (5.0%) and Fasciola spp. (1.3%). Post mortem examinations of a small number of pigs depositing eggs of different helminth species revealed the presence of Oesophagostomum dentatum, O. quadrispinulatum, A. suum, Metastrongylus apri, M. pudendotectus, T. suis, G. hispidum and Ascarops dentata. Prevalences of all helminths, with the exception of Oesophagostomum spp., were higher in **young pigs** (< 8 **months** old) compared with adult pigs.
Prevalences of trematodes were very low, especially for S. japonicum which had decreased dramatically compared with previous reports from this area of P.R. China, whereas prevalences of nematodes were generally in agreement with those reported from other Yangtze River Provinces. Results from helminth prevalence studies in pigs, conducted in other provinces of P.R. China between 1987 and 1997, are presented and discussed. It was concluded that a government helminth control programme, implemented in 1995 to control S. japonicum infection in pigs in Hunan Province, may have resulted in a greatly reduced prevalence of S. japonicum in pigs in this region.

L2 ANSWER 2 OF 3 MEDLINE on STN
ACCESSION NUMBER: 89048331 MEDLINE
DOCUMENT NUMBER: 89048331 PubMed ID: 3263819
TITLE: Localization of proprioceptive neurons innervating the muscle spindles of pig extraocular muscles studied by horseradish peroxidase labelling.
AUTHOR: Kubota K; Matsuyama S; Kubota M; Narita N; Nagae K; Hosaka K; Lee M S; Chang C M; Yeh Y C; Ohkubo K; +
CORPORATE SOURCE: Section of Anatomy, Tokyo Medical and Dental University, Japan.
SOURCE: ANATOMISCHER ANZEIGER, (1988) 166 (1-5) 117-31.
Journal code: 0370541. ISSN: 0003-2786.
PUB. COUNTRY: GERMANY, EAST: German Democratic Republic
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198812
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19900308
Entered Medline: 19881212

AB Each muscle of the extraocular muscles, containing abundant muscle spindles, was exposed to horseradish peroxidase (HRP) on 8 **young pigs** (2-**month**-old, 20-30 kg in body weight, both sexes). The results obtained are follows: The HRP-labelled neurons innervating the superior rectus muscle were always found in a crescent ventro-medio-dorsal fashion in the most medial position of the contralateral oculomotor nucleus. The HRP-labelled cells for the medial rectus muscle appeared close to the superior rectus group in the ipsilateral nucleus. The labelled cells for the inferior rectus muscle appeared in the ventrolateral position of the ipsilateral nucleus and those for the inferior oblique muscle in the area between the medial rectus and inferior rectus muscle groups. The labelled cells for the superior oblique muscle were found in the contralateral trochlear nucleus and those for the lateral rectus muscle bilaterally in the abducens nuclei, predominantly on the ipsilateral side and poorly on the contralateral side. The HRP-labelled cells were composed of large (alpha) and small (gamma) multipolar cells and of bipolar, oval or round (proprioceptive) cells, all intermingled together within the nucleus. The bipolar cells have been also identified in the 3 nuclei by means of Nissl staining technique. On this basis, they should be considered as the proprioceptive neurons. In the shrew-moles, the cell bodies of the proprioceptive neurons innervating the snout muscle spindles have been found close to the ipsilateral glossopharyngeal ganglion and those of the somatic sensory neurons in the ipsilateral trigeminal ganglion. In the pigs, no HRP-labelled cells were found in the trigeminal mesencephalic tract nucleus, but the HRP-labelled cells were found in the ipsilateral trigeminal and the superior cervical sympathetic ganglia. From the results, it could be emphasized that the proprioceptive neurons innervating the pig extraocular muscle spindles are located within the nuclei of the IIIrd, IVth and VIth cranial nerves.

L2 ANSWER 3 OF 3 MEDLINE on STN
ACCESSION NUMBER: 85042015 MEDLINE
DOCUMENT NUMBER: 85042015 PubMed ID: 6388144
TITLE: [Changes in the white blood picture and the T- and B-lymphocyte counts in the peripheral blood of pigs after treatment with E. coli endotoxin].
Promeni v bialata kruvna kartina i broia na T- i B-limfotsitite v perifernata kruv na praseta sled tretirane s endotoksin na E. coli.
AUTHOR: Andonova M; Gundasheva D; Ivanov V
SOURCE: VETERINARNO-MEDITSINSKI NAUKI, (1984) 21 (6) 101-6.
Journal code: 0414760. ISSN: 0324-1068.
PUB. COUNTRY: Bulgaria
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Bulgarian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198412
ENTRY DATE: Entered STN: 19900320
Last Updated on STN: 19900320
Entered Medline: 19841212

AB Studied were the changes in the total count of the white blood cells, the leukocyte formula, and the T- and B-lymphocytes of **young pigs** (2-3 **months** old) at various intervals following treatment with an E. coli enterotoxin. It was found that there set in an essential drop of the total count of the white blood cells during the first 24 hours after treatment, with a following rising trend. There were also characteristic changes in the ratio between the various types of white blood cells, with a rise of the lymphocytes and monocytes. The level of T-POK and B-POK rose after the endotoxin was injected--for the T cells it reached peak values between the 3d and 5th day, while for the B cells it was highest between the 5th and 7th day. There was a following drop with both types of cells, and by the 15th day the initial level was reached.